

The Oldest Bee Journal in the English Language

The American Bee Journal

ESTABLISHED BY SAMUEL WAGNER IN 1861

INDEX TO DISPLAY ADVERTISERS

A to I

American Bee Journal, 576, 579, 609, 615.
American Honey Institute, 615.
American Pigeon Journal, 615.
American Rabbit Journal, 611.
Australasian Bee Journal, 579.
Beekeeper's Item, 610.
Brand, W. T., 609.
Burleson, Thos. C., 616.
Calvert Apiaries, 611.
Christmas Seals, 610.
Citronelle Bee Co., 610.
Coffey Apiaries, 579.
Cotton Belt Apiaries, 611.
Crowville Apiaries, 579.
Cutts & Sons, J. M., 611.
Dadant & Sons, 575.
Davis Bros., 610.
Dusek Co., Joseph, 611.
Forehand & Sons, W. J., 610.
Garon Bee Co., 615.
Gibbs Co., W. O., 611.
Goat World, 579.
Great Northern Railway, 608.
Guilford Apiaries, 615.
Hazel-Atlas Glass Co., 608.
Highland Apiaries, 579.
Hodgson & Sons, S. P., 611.
Hotel Atlantic, 616.
Iverson Honey Co., 612.

Contents

MONTH OF DECEMBER, 1936



Looking Ahead for the Pickup— <i>T. A. Myers</i>	581
Guest Editorial—Honey Utilization and Marketing— <i>R. E. Lothrop</i>	583
Editorial	584
Honey, a Magic Beautifier— <i>Ella Thompson</i>	586
Thirteenth Month— <i>C. M. Litteljohn</i>	587
Honey Getting—Part VII— <i>E. L. Sechrist</i>	588
The Editor's Answers	590
Honey and Arthritis— <i>Elmer Carroll</i>	591
Practical Winter Cases— <i>William Howard</i>	593
In Defense of the Beginner— <i>J. W. Peterson</i>	593
Beekeeping at the University of California— <i>Austin E. Fife</i>	594
Goldenrod as a Honey Plant— <i>Robert M. Mead</i>	595
Honey in the Newspaper, Bakeshop and Home— <i>Mrs. Benjamin Nielsen</i>	596
Fireweed Flights— <i>C. M. Litteljohn</i>	597
Pleasant Wax Melting— <i>J. B. Stuyvesant</i>	598
Some Observation on the Wax Moth— <i>J. Harmatiuk</i>	599
Honey for the Holidays— <i>Mrs. Charlotte H. Merrell</i>	600
Vagabond Beekeepers— <i>Mrs. Myrtle Cahow Agee</i>	602
Honey Displays in Vacant Windows— <i>Emory Ward</i>	603
Lives of Famous Beekeepers— <i>Kent L. Pellett</i>	604
Thirty Years of Christmas Seals— <i>Elizabeth Cole</i>	605
Demonstration Opportunities— <i>Ivan Whiting</i>	606
Meetings and Events	607
Crop and Market Report— <i>M. G. Dadant</i>	612
Postscript— <i>Frank C. Pellett</i>	622

INDEX TO DISPLAY ADVERTISERS

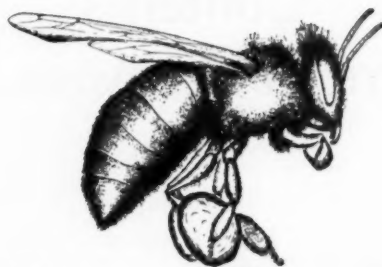
J to Z

I.X.L. Apiaries, 609.
Jackson, D. C., 579.
Jensen's Apiaries, Inside front cover.
Kelley Co., Walter T., 579.
Knight, Jasper, 615.
Lewis Co., G. B., 580.
Lotz Co., August, Inside front cover.
McConnell, Herman, 611.
McDonald, L. H., 609.
Marshfield Mfg. Co., Inside back cover.
Merrill Bee Co., 611.
Middle Tennessee Apiaries, 615.
Muth Co., F. W., 611.
Overbey Apiaries, 578.
Puett Co., 575.
Red Stick Apiaries, 575.
Root, A. I. of Chicago, Inside back cover.
Root, A. I. of Iowa, Inside front cover.
Root, A. I. of Ohio, 611, Back cover.
Rosedale Hutterian Mutual Corp., 610.
Rossman, J. G., 616.
Rusch & Son Co., A. H., 610.
St. Romnin's "Honey Girl" Apiaries, 616.
Standard Churn Co., Inside front cover.
Standard Lumber Co., Inside back cover.
Stover Apiaries, 575.
Taylor Apiaries, 616.
Victor Apiaries, 610.
Woodman Co., A. G., 579.
York Bee Co., Inside back cover.

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Looking Ahead for the Pickup

By T. A. Myers,
South Dakota.

BY selective breeding we will make progress with our bees and when methods of testing are worked out, and the results of the tests made public in the bee journals, we will surely be going ahead. Progress in other things has been made by accumulated knowledge and it will be made in our industry.

We can use the methods applied to stock selection where improvements are possible by taking advantage of variations. Of course, we must find the variations first.

American foulbrood is a problem because of degenerate stock. Bees left to themselves a number of years will degenerate. Man and Mother Nature are the two selectors. Man does not select for the same thing, neither does Mother Nature. Many beekeepers have improved their stock in one or more ways without realizing they were doing it. A beekeeper usually gets rid of bees that cause him trouble. Foulbrood is at the head of the list.

In 1915 I worked for L. C. McCarty in Idaho and I learned foulbrood by sight. I then worked for P. R. Randall of Idaho. We ran out of foundation on which to shake bees and I that year saw one hive clean out its disease. I watched them for five years and they stayed clean.

In Grandview, Idaho, we were short of pollen. There was hardly any surplus of it in the hive. Here in South Dakota, we find a reserve stored. In selecting the best honey producers I would automatically pick the best pollen gatherers. In Idaho these bees seldom put pollen in the sections. Here they do. This is an example of how bees will be good in one place and bad in another.

On recommendation from Chas. Engle, of Sioux City, I secured bees from a southern breeder which would build up from a small start in half the time my former bees did. They were good honey gatherers

more inclined to store honey, but not over the brood, making them better bees for a big hive like the Modified Dadant. They were not bad in swarming during the honeyflow, but after the flow was over, I went to the yard and found nine swarms on trees and a few starved, with the rest of the hive full of brood and no honey. They had used their honey and their pollen to raise bees.

The bees I previously had showed another tendency. Quite a few bees would come out with a young queen so they looked much like a small swarm. These bees would guide the queen back to her own hive, so there were very few losses in mating. Not all bees do this. [We have seen it. It is an interesting observatio. —Ed.]

The trouble bees cause may be eliminated to a great extent by having a reliable method of finding the worst offenders, killing their queens and requeening with stock that is better.

In 1918 I began to make hives where the bees ran too much when the hive was opened. They were requeened with queens I raised. Most of this trouble disappeared the next year and all of it did the second year.

I had another trouble with bees eating foundation. When the bees did not fill the section soon after it was given to them, they would eat the starter away so that later the bottom of the starter would swing around and get stuck to the separator. I marked colonies that had this fault, requeened them and did not have the trouble again.

I also had bees that when a super of foundation was exposed, the bees would pick the foundation to pieces, load it into their pollen baskets, working uniformly over the surface of the foundation, and carry it away. I have never seen this before.

Another point I helped by selection and elimination was this: My bees would build up and fill their hive

with brood in June and then slow down to a small brood nest less than one comb, due probably, to a scarcity of pollen.

By selecting and requeening, this was eliminated. I also used this manipulation. I threw the working force of two or three hives into one about the first of July, to overcome the same trouble.

In 1924, a Mr. Miller moved one hundred colonies near me and tried to run them for comb honey, but the bees filled up the brood nests and stopped. He tried various ways such as taking out combs of honey, but had no success. He only got a few supers from the entire yard, while mine made three cases per colony.

In studying bee behavior, we must consider one thing at a time. Behavior depends upon two factors: the stock and its inherited qualities, and the queen. Most writers fail to consider the part the stock plays in bee behavior.

Another peculiarity my bees had which is not often found was that they were slow to leave the supers. It would take four or five days to get them out of a comb honey super with a bee escape, and in some colonies they would not leave at all. I have tried many ways of getting them off the honey, but none of them worked. Carbolic cloths would cause them to ventilate, but they would do very little moving.

I also had bees which would hunt trouble. They would buzz in front of one's face and were face stingers. If one had a good veil, he would be largely free from stings except on the fingers. Lately, I have had bees that would sting as readily one place as another. A few years ago I saw my first rush stingers. These bees seemed to wait for a leader and several hundred leave the combs at once, all trying to do business.

Take the question of foulbrood, the average bee inspector describes

it as bad, which it is with degenerate bees from stock that have never been exposed to disease. Under conditions where disease is not found, there is no way to tell the good from the bad. So, stock will degenerate or lose its quality of resistance.

All queens have certain qualities and no two queens have exactly the same set of qualities. Some of these can be observed and some are not evident. When a queen is selected as a breeder, the unknown qualities as well as the known have a tendency to be transmitted to the next generation. So, there are always variations. Stock improvements are possible by taking advantage of these variations if they have become known.

Even descriptions of foulbrood vary because of the differences in the behavior of bees toward the disease, so that descriptions of it given by different people with different experience may not seem to be true. When I came to Elk Point in 1925, there were two men with bees, one with two hives rotten with foulbrood. Each had several times as many cells of foulbrood as I had ever seen. I told this man that his bees would be dead before the summer was over. They made some honey that summer and did not die. Bees I have seen which are a mixture of black, Caucasian and Italian move away from the foulbrood spot and largely let the cells alone. If they have room to move, they can live with foulbrood indefinitely.

The other man had about twenty hives and said he had heard about disease, but had never seen any. He cleaned out all the combs from hives which had died and put swarms in the hives. The description of foulbrood he had studied did not fit what he had seen in his bees, because his bees did not behave toward it in the same way. I believe bees that fight foulbrood as the native black stock in my locality does are a disadvantage to the beekeeper.

I do not know how my Italians behaved toward it, but they did not move their brood nest. The combs of a dead colony required careful inspection to find infection, and fertile workers would clean out a set of combs that would not have been cleaned by queenright colonies.

Where we find foulbrood and bees both living together for several hundred years, the bees must have some way to get by in spite of the disease. If foulbrood always behaved as described by many writers, bees would have died long ago and the foulbrood itself even would have disappeared for lack of a chance to develop, or it would have had to find another host which it could not entirely kill off. This law does not only apply to foulbrood and bees, but to other things.

How does Mother Nature develop bees that are partially immune to

foulbrood? Of course the bees that are bothered most by the disease die off and leave the ones to multiply that are bothered the least. Each time this process is repeated, the bees become more nearly immune. Soon foulbrood ceases to kill and here the process of selection stops. Man can go a few steps farther than Mother Nature, but what usually happens with the beekeeper is that when his bees become fairly immune he changes his stock and then his bees start to degenerate again. Queen breeders should remember this.

A few years of experiment with exposure to the disease and the selection of stock would end this problem and stop the loss of bees and equipment, market and appropriations.

Near Nampa, Idaho, before 1915 lived Mr. Walley, a man with home-made hives, with most of his combs built from starters, and most of his queens were his own stock. It was said of him that he could expose foulbrood combs to his bees and they would not get the disease.

Another beekeeper, George Gosvenor, who lived near Mr. Walley's place, told me in the spring of 1916 that he only found those colonies headed by queens not of his own stock were the ones that had disease. So, some types of bees are carriers of foulbrood and others are victims. The two together are a bad combination. Immune stock in the neighborhood of stock which is not immune explains some of the appearance of disease when no other explanation seems to be apparent.

In 1931 I used a breeder queen raised from a queen rescued out of a yard that had disease, but soon cleaned up. She has one peculiarity—she does not lay in drone comb, not even one egg.

I believe breeders of queens should tackle this problem and see that their stock is of such resistance that it can be depended upon as an aid to overcome disease. Why do they not do this? If pure stock of the right sort had to be tested by some reliable station and then if all the names of breeders could be published with this kind of stock if we had a sort of a breeders' register, we would know where we were. Of course, we will never be able to remove all of the uncertainty, but much of it can be removed.

Beekeeping in Pennsylvania

Circular 141 from the Division of Agricultural Extension, State College, Pennsylvania. Author Edwin J. Anderson. Covers the usual elementary material for Pennsylvania conditions—The bee colony, starting with bees, locations, equipment, package bees, seasonal management, bees for pollination, diseases. Well illustrated. Copies from address above.

BEWARE—of Imitations

Most of our readers are by now familiar with the new dripcut honey server offered by American Honey Institute. It is the best container top for serving honey without mess that has ever been offered.

But, alas, anything good must be imitated in our commercial scheme of things. A Seattle firm has been putting out a dripcut server, also, made of bakelite. It is nothing like the original dripcut and much inferior. To get one will be to use it with disappointment. If you want a really serviceable and finely finished server get the dripcut offered only by American Honey Institute. Distribution is reserved to the Institute and the Institute should get our support.

Package Bees in Manitoba

Eleven Years' Experimental Results.

Farmers' Bulletin 11 (Publication 522) of the Dominion of Canada, Department of Agriculture, copies available from the Dominion Experimental Farm, Brandon, Manitoba. Author Erdman Braun.

Contents.—Advantages of Package Bees, How to Use, Time of Arrival, Side, Loss of Queens, Installing, Results of Eleven Years' Experiment and Comparison.

Summary.—Eleven years' results show that—package bees are profitable for Manitoba—packages should not arrive later than May 5th—two pound packages are best—the net returns are not as great as for overwintered colonies—queenless packages to strengthen weak colonies increase the gross income but do not provide the profit returned by straight commercial packages.

Dadant Hives

Dadant frames built into home made rims, the rims carrying 12, 13 or 14 frames, or a less number of frames with filling-in dummies, served us exceptionally well last winter, especially where the extra frames were removed and the bodies filled in with the dummies. A division board and suitable packing placed in gunny sacks and stuffed down alongside the division boards may also be used. Our division boards are old dummies cut to fit full size of the rim so there is no draft permitted around the ends of same.

We paid a pretty severe penalty for not having given our bees sufficient winter protection last winter. Ordinarily we have found but little benefit in winter packing during less severe winters, consequently loafed on the job last year, to our sorrow.

J. H. Sturdevant,
Nebraska.

GUEST EDITORIAL

In the Interest of . . .

American Honey Institute

Honey Utilization and Marketing

By R. E. Lothrop,

Carbohydrate Research Division, Bureau of Chemistry and Soils,

U. S. Department of Agriculture.

HAVING recently visited a considerable portion of the honey-producing area of the United States, the writer feels particularly well situated at this time to discuss some of the problems of honey utilization and marketing, particularly with respect to use by certain large industries.

The program of the American Honey Institute for investigating various fields of consumption of honey is necessarily very extensive and covers a wide field of endeavor. In this program are included both direct consumption of honey, and utilization by various industries such as in baking and in candy manufacture.

It would appear that two very fundamental facts should be considered in connection with the program for seeking wider and more diversified utilization of honey. First it must be recognized that honey is a product which by nature is rather variable; whereas various manufactured products of saccharine character are more or less uniform in composition, honey is a natural product and therefore varies to a considerable extent in quality and composition. It is, therefore, more difficult to standardize methods of marketing and utilization of honey than in the case of products of somewhat similar nature, the character and composition of which are more or less uniform.

This very diversity of character, however, might in some respects be considered advantageous in that it offers an opportunity for diversified utilization that is not possible with products of uniform composition. This necessarily calls for considerable study in order to determine the exact requirements that honey must meet in the various consuming industries, and also to establish the suitability of the various types for these different uses.

This is all the more important in view of the rigorous specifications laid down by many industrial concerns for the raw materials which they use. Most large concerns maintain research staffs which are constantly striving to improve and standardize their products; hence it is important that all raw materials used shall at all times conform to specifications. This, in turn, necessitates a study

on the part of the producer of the raw material (in this case, honey) of the specifications and requirements of the consuming industry. While it is not expected that the American Honey Institute can conduct all or even a major portion of such a program of investigation, it is nevertheless playing an important role in stimulating more helpful research on honey and in bringing the results of research conducted by other agencies to the attention of those to whom it will be most useful.

Now the second thought in this connection is with respect to the numerous potential outlets for honey other than direct consumption. Some of these potential outlets for honey, and there are many, take us out of the food field entirely. Let us consider just one use in the food field. It is well known that in recent years an increasing amount of honey is being used by commercial bakeries for bread baking. Manufacturers of a number of well-known brands of bread are using honey and are advertising this fact prominently.

To illustrate the potential magnitude of this single use for honey, a little calculation shows that if honey were used to supply only one-half of the sugar required in bread baked by commercial bakeries in the United States, the entire honey crop of the country would be required for the purpose. This single illustration serves to indicate forcefully the possibilities of large-scale industrial use. Similar figures in relation to cakes, cookies and other sweet goods produced by commercial bakeries would likewise be impressive. In addition, honey is a suitable product for use in a number of other industries such as candy manufacture, ice cream production, the tobacco industry, for brewing, in wine making and in vinegar manufacture. Honey has been, and is at the present time, used to a limited extent in some of these industries.

It is believed that failure of the industries mentioned to use honey to a greater extent is due, in great degree, to insufficient study of the properties and characteristics of honey of different types in relation to the requirements of these industries. This is a subject which merits careful thought and consideration for a plan of constructive action.

EDITORIAL

Holiday Greetings

This is the 25th year of publication of the American Bee Journal under the present management. In that time many strong personal friendships have developed. Many of these friends we have never seen but the letters that come from them provide a strong bond. Our expression of good will thus is no mere matter of routine but comes from the wish to have a part in the holiday thought of those of whom we think with high regard.

The dominant thought behind the Christmas activity for centuries has been that of "Peace on Earth Good Will to Men." It is unfortunate that it comes this year in the midst of preparations for war on a scale such as the world has never before seen. Let us hope that the better thought will prevail and that some means can be found of composing national differences.

Certain it is that the men who follow the gentle art of honey production are a peaceful class and have only good wishes for their fellows throughout the world. There are few who prosper without cost to others. As the wealth of the beekeeper is increased so is that of his neighbor from the labors of his insects. The honeybee gives more than she takes and when she gathers a crop of honey she insures greater fruitfulness of the flowers which she visits. For every dollar that she gains for her master she gains two for the plantmen on whose bounty she depends.

Here is the exemplification of the motto, "He profits most who serves best." May we adopt this plan for all our human relations. If it could be made the basis of all human contacts what an improvement we might find within a short time. The money now spent for war could provide ample comforts of life for all the people of all the world.

Our sincere good wishes go out to all our readers for a happy Christmas season and may we all return to those on whom we depend the same measure as do our honeybees to the flowers which provide for them.

—ABJ—

Protection Against Poison

The problem of protection of the beekeeper against the loss of bees from spray poison is becoming increasingly serious. The use of the airplane in spreading dust has given sufficient satisfaction to increase the demand for that method of application. As mentioned in these columns on several previous occasions dust applied in this manner drifts over a wide area and much damage often results.

The latest to come to our attention is the loss of 300 colonies of bees by Mrs. Loveitt, one of the most successful honey producers of the state of Arizona. Mrs. Loveitt had no notice of intent to spray and the damage was done before she became aware of the danger.

It thus appears that the use of poison in the control of insect pests now offers in some sections a more serious problem to the beekeeper than disease—in fact it is now the most difficult problem which he has to face.

California has tried to meet the situation by requiring pest control operators to secure a license and to give notice to the County Agricultural Commissioner of intent to dust 24 hours in advance of the time the work is done. This permits warning those in the vicinity to be on guard but does not remove the danger.

Certainly it is high time that beekeepers take concerted action to meet this situation. A careful study should be made of every phase of the problem in the hope that rules can be laid down which will protect the interests of all concerned. We can hardly hope to stop the use of poison by those who must combat insect injury but they must be required to give consideration to others who are in danger of damage by their actions.

It would seem that this is a subject worthy of consideration by the Bureau of Entomology at Washington and that it may well be taken up for discussion at the next meetings of the entomological societies.

—ABJ—

Cellar Wintering

Since outside wintering has become popular we hear much less about cellars and cellar temperatures than in days gone by. However, now and again there is an inquiry as to proper preparation for cellar wintering.

One who wishes an exhaustive review of the whole subject will do well to secure a copy of the report of the State Apiarist of Iowa for the year 1928. This contains a long article on the subject of temperatures for cellar wintering by V. G. Milum, of the University of Illinois. Milum discusses the principal articles on the subject which appeared in the bee magazines as far back as 1863.

It is interesting to note that after quoting a wide variety of recommendations, Milum advises sticking to the temperature commonly recommended by such men as Charles Dadant, viz., 45 degrees F. We quote his conclusion:

"In spite of all that has been said in favor of higher cellar temperatures, beekeepers will do well to stick to the old standard of approximately 45 degrees F., maintaining the cellar at or as near this temperature as possible.

"Along with this temperature, other factors are maintenance of a dry atmosphere with adequate ventilation. The cellar should be completely darkened and all other disturbing factors eliminated."

He further stresses such things as clusters of young bees, and ample stores which are essential to success with any method of wintering.

To the points discussed in Milum's paper one might add that the amount of humidity in the atmosphere has a bearing and that the bees will stand lower temperatures as one moves toward the west where dryer conditions prevail. Accepting 45 degrees as the correct cellar temperature for Illinois it is probable that a slightly lower temperature, perhaps 40 would be nearer right for the Missouri River Valley. On this basis it is not unreasonable to believe that farther east where there is more moisture a slightly higher temperature, probably near 50 degrees might be about right.

—ABJ—

Caucasians

The champions of the Caucasian bees continue to insist that they have good qualities which have been too long overlooked. Most of us who have given but little attention to this race have been prejudiced against them because of the excessive amount of propolis which is used to build barriers at the entrance and to plug up every available crevice about the hive.

In this connection Ray Hutson, of the New Jersey Experiment Station, some time since reported having tried two different strains of Caucasians one of which used no more propolis than Italians. He reported favorably on this strain of Caucasians which he secured directly from C. A. Gorbachev, of Tiflis, Caucasus.

Hutson described them as exceedingly gentle, and with ability to repel robbers successfully. He stated that burr combs between and upon the top bars were noticeably absent and that cappings were very white.

It would be interesting to know whether later tests have confirmed this favorable impression of the strain which he had then under test. If so it may well be that much of the prejudice against Caucasian bees is because of the general distribution of inferior strains which have undesirable qualities.

The Place for Comb Honey

Our industry is losing something because of the failure of beekeepers in many localities to produce a sufficient supply of fancy comb honey. There is a demand for that article which will not be satisfied with honey in any other form. It is not large enough to take the output of all our present day commercial apiaries should they all turn to comb honey but it is an important market nevertheless.

Comb honey is a luxury product and demands a special price. It appears to be impossible to raise the price of extracted honey very much above that of competing sweets but there is a limited market for comb honey in which there is no competition.

While our large commercial apiaries must find their outlet in channels such as the baking trade where honey approaches the position of a staple, the specialist who will cultivate the luxury market will find it well worth while.

There are friends of the industry who are distressed by the disappearance of fancy comb honey from so many markets. Some of the reasons are very apparent. Comb honey requires a higher grade of skill in its production than does extracted honey and many follow the easier path. Comb honey requires closer attention to the bees during the crop season and therefore the beekeeper cannot attend to so many bees. The man who wishes to operate a big outfit is thus prejudiced in favor of extracted honey. Finally the extracted honey producer escapes many items of annual replacement such as sections, foundation, wrappers and cases, which the comb honey man must provide.

In practice the question of what to produce boils itself down to a question of whether one prefers to depend upon volume of output at a low price rather than to devote more time to a fancy product to sell in a special market. The present day trend is toward volume of output rather than quality of product.

—ABJ—

Variety Differences in Nectar Secretion

Work done at the Iowa Experiment Station by Dr. O. W. Park indicates great variation in the yield of nectar by different varieties of the same plant under the same environmental conditions. Park found that one variety of gladiolus yielded three times as much nectar as another variety grown in the same plot of the college garden. This work has not been carried far enough, as yet, to give us much information regarding such variations but interesting possibilities are opened.

May it not be that one variety of apples will yield much more freely than another in the same orchard? If so this may account for the fact that at times the bees visit one section of an orchard more freely than another with the result of a better set of fruit.

Similar variation may account for the fact that white Dutch clover gives so much more for the bees in one spot than in another or that sweet clover or buckwheat or other honey plants behave in like manner.

We have not as yet scratched the surface in the study of our honey plants. It is altogether probable that when we know more about the behavior of the plants in nectar secretion that we will begin selecting strains which are abundant in their nectar secretion from which to propagate.

It is a bit surprising to find such a great variation in different varieties of the same plant as Park found with the gladiolus in the college garden but there is every reason to believe that other plants would be subject to the same behavior. If they are it is important that beekeepers know more about it since too often a crop is lost through dependance upon honey plants which fail to yield the expected flows.

—ABJ—

The Result Getter

The editor of The Scottish Beekeeper appears to be a practical man even though he is a college professor. In a recent issue of his magazine he discusses changes of hive sizes that are taking place in Britain and offers to open the columns of the Beekeeper to anyone who cares

to describe his methods. He closes with the significant statement, "but we shall listen most patiently to the one who gets the best results."

It is unfortunate that the one who gets the best results is so seldom inclined to air his views in print. In every important honey producing area there is someone who has been able to get results which would be of vital interest to the industry if he could but be persuaded to tell his story.

Every editor of a trade publication finds himself hard pressed to secure the best material—the story of the man who gets the best results. Too few of them are able or willing to put the facts on paper for the benefit of their fellow men.

—ABJ—

Protect Against Mice

To those who have had little experience in wintering bees it may be well to offer a word of warning as to the danger from mice. When the bees are quiet mice too often find their way into the hives and do serious damage by gnawing the combs and disturbing the occupants.

It is the usual custom to turn the bottom board over so that the shallow entrance is in use during the winter as this usually prevents the entrance of the rodents. If only one entrance is available as is the case with some hives it may be well to use a wire screen of about one-half inch mesh. This should permit the free movement of the bees while preventing mice from getting into the hives.

It is very annoying when unpacking the bees in spring to find that valuable colonies have been lost because of the mice and most bee men have had just that experience.

—ABJ—

Apiary Expansion

The Australian Beekeeper indicates that beekeeping is attracting new recruits in that far flung country. It is said that the total number of colonies in New South Wales has been doubled in two years with a similar increase in South Australia during the past four years. To double the capacity of an industry in such a short time offers something of a problem in disposition of the product and the result has been lower prices for honey.

It is important for beekeepers to make sure that the demand for the product keeps pace with the increase of output if prosperity is to be maintained. Organized efforts in this country are increasing market outlets as expansion in production takes place. If beekeepers are wise they will see to it that funds are sufficient to maintain the Honey Institute at a point to insure stability for our markets.

—ABJ—

A New Suggestion

Removing the feathers from fowls is not the easiest job as most of our readers know from experience. Now comes the suggestion from the French L'Apiculteur that the bird be immersed in warm beeswax of about 176 degrees. The bird is dipped three times and then hung up for fifteen minutes to cool and harden. It is then plunged into cold water for a minute after which the wings are spread forcibly to break the wax. It is then removed in pieces bringing the feathers with it. The claim is made that the bird is left in beautiful marketing condition with all hairs and feathers removed and skin left white and smooth. The wax is then melted and the feathers separated in anticipation of using the wax over again for a similar purpose. Who wants to give this a trial and report the result?

—ABJ—

Honey in the Sweet Clover Region

The Great Plains area showed great variation in the 1936 honey crop. In parts of northern Nebraska and southern South Dakota the beekeepers report near failure because of the severe drought. Farther north there was a good honey crop in spite of the dry weather. North Dakota beekeepers report heavy yields and Saskatchewan the biggest crop in its history.

Sweet clover is a dry weather crop and if it has enough moisture to live it can be depended upon to produce nectar in spite of drought. This plant has been the salvation of the livestock farmer in much of this region for without it there has been little feed for animals.



Honey, a Magic Beautifier

By Ella Thompson,
Indiana.



I LOVE to do things to my face. George says mine can stand a lot of fixing. The other day, I was standing before my mirror, spreading a half and half mixture of honey and water upon my face. I was having the best time, communing most exquisitely about how wonderfully soft and white my skin was going to be. To me, a seance with my looking glass in an effort to attain natural beauty, is a vitalizing tonic. Only another woman, likewise engaged, can realize how blissfully I was employed.

But to mar my peaceful meditations, along came George. "Why are you always dabbing things on your face?" he asked. "Trying to make myself pretty," I told him. "Well, you are going to work a long time," he haw-hawed and went away roaring.

It takes a brother to tell you. But who cares for a mere brother? It is what the other fellow says that counts. At least, that is the way I feel about it. I'll admit that for a few seconds, I felt crestfallen and looked in the glass with deep humility. Soon, I pepped up with the same determination to be just as pretty as I could be which George declares I already am.

But no matter what anyone says, I'd much prefer to be pretty than intellectual. As to how my beauty and brains compare, George has a ready answer. But can anyone deny that the outside of one's head counts for more than the inside? Are we not more often seen than heard? So I've been sticking to honey just as honey sticks to me and my mirror tells me I have improved immensely.

I would never think of doing without honey in the preparation of my toilet. On my lavatory, I always have a toilet bottle full of diluted honey. I use it on my hands too in a sort of wringing motion same as I'd do if George came in suddenly and an-

nounced, "Sis, the depression is over." Hating to see the depression, that sticketh like honey, finally go, I'd wring and wring my hands and exclaim, "It am?"

The honey sinks into the skin making it white and velvety. Sometimes, I give my hands a very special treatment of diluted honey, leaving it on for an hour or so while I wear over-sized rubber gloves. Honey treated hands can be most alluring, fluttering effectively on certain occasions, when someone is near, not a brother. Or, such a hand looks well while throwing a kiss to one's mother. This is what I really meant to say. At all times, it pays to keep one's hands looking well and honey easily brings the reward, used pure or diluted.

A little pot of pure honey I find valuable for other toilet needs. Into it, I dip a finger and massage my lips briskly. The warmth, caused by the friction, melts the honey which sinks into the lips, making them soft and very red. When George looks at me (which is sometimes), he declares I use lip stick. I don't because my honey treated lips are plenty red.

But is a lip stick a sin? No. I like to dip the cotton tipped orange wood stick into honey and go under each finger nail. They become snow white. Honey as a beautifier cannot be excelled. It beats glycerine a mile. Glycerine burns some persons' skin. Honey, not only does not burn, but actually heals a burn, caused by either sun or fire.

What honey did to beautify a girl friend of mine seems unbelievable. Her name is Alliedane. She was so homely, that George said he bet she used chloroform to put her face to sleep at night. And at the literary club, which was much more gossipy than literary, they talked terribly. Fortunately for Alliedane, she worked and did not hear these unkind remarks. As I looked around at the

members of the club, I could not see that any one had a whole lot of room to talk. I knew I hadn't. Then came a transformation in Alliedane and now George proclaims that he never did say she was ugly. And the gossip club—well, they are all mum. Jealous, that is all. What they each need is a five pound pail of honey with diligence to apply. For now Alliedane is a radiant beauty and she turns all heads. Honey did it.

One day, she came to our house when I was getting ready for a honey-lemon facial. I take one about every week or ten days. It does wonders to one's face. I use equal parts. Some like more of one and less of the other. As I said, here came Alliedane. As she is home folks, I went ahead with my prettyfying.

After I had done thorough cleansing with plenty of warm water and soap and had rinsed carefully, I began to apply the honey and lemon juice. I saw that Alliedane was interested. This surprised me because, frankly, at that time, Alliedane was to all appearances, one of the "I don't care how I look" girls. Generally, not much can be done with that kind of girl. I sat down a few moments while the liquid dried. She asked me a few questions about the lotion. After I had cleansed the honey and lemon from my skin, and had finished with powder and a speck of rouge, Alliedane looked at me with what I thought was admiration. I felt pretty as I always do after a honey-lemon facial.

I didn't see Alliedane again for two weeks, maybe a month. Then one day, an unusually pretty girl came to my door. "Why, Alliedane," I exclaimed, "what have you done to yourself? You are beautiful." She laughed and was prettier than ever for her lips were like cherries and her skin like a rose petal. And joy of joys! She had a better job with better pay. "What have you stepped into

now?" I asked. When she told, I nearly fell over. Her boss, as I well know, is one of the hardest men to please in the whole country when it comes to selecting a girl for his office. Secretly, I decided to drop into the office and hear what the boss had to say about Alliedane for I knew him quite well. The next day, I went. As soon as I entered, I knew from the location of her desk that Alliedane had a jim-dandy job.

The boss was all smiles. "Got a new girl," he said with pride. Alliedane was too far away to hear. My eyes were upon her. Suddenly she looked up and flashed me such a lovely smile that my heart leaped and filled with warmth. I felt she was a work of art that I had produced, yet, all I had done was to give her a simple idea that she had used and developed to her own advantage and improvement.

"Oh, she is so darn good looking," asserted the boss. Someone now is sure to ask the age-old question, "Is he married?" Yes and what is more he is crazy about his wife. That ought to settle everybody. "When I saw those hands," continued the manager, "I knew she was the girl for this office." Yes, that man looks at hands before he looks at faces. If hands don't suit him, he says "No," without looking at the face.

You can rest assured that I was right at Alliedane's that evening to learn everything I could as to the way by which she had developed her marvelous beauty. More surprises awaited me there. Her mother came to the door. As great a difference was to be seen in her as there was in Alliedane. But the surprise that about knocked me off my chair was when the grandmother walked in. She looked scads and scads younger. And right here was where I became a doubting Thomas. "Can't tell me," I thought to myself, "that honey has done all this. These women have visited a cosmetic surgeon." Then the father came in and he looked as old and ugly as ever. "Hello, Sadie," he called out. "You sure got these women all crazy about honey." And then he began to let me in on the secrets. "Oh," he explained, "they cook up oatmeal and mix it with honey and spread it on their faces. They stir tomato juice with honey, use milk and honey with a pinch of salt. The cupboard is their complexion laboratory." He was poking fun but you could tell he was proud.

But the old lady, the real marvel of all, leaned over and whispered to me, "He doesn't know what I do." I was very close to her and I could not detect a single wrinkle on her face or neck and her skin was almost as pink and velvety as Alliedane's. She was far in her sixties. "Do tell me," I begged, "So I can tell others." "I beat the white of an egg until it is

fluffy," she explained, "then into it, I stir honey. For a very few minutes, I let it remain on my face." So that was why her wrinkles were gone.

And now, throughout the land, I'd like to broadcast to all women the great merits of honey as a beautifier and picture to them the marvelous beauty of Alliedane.

—ABJ—

The Institute Is Our Tree Top Ladder



—ABJ—

Thirteenth Month

By C. M. Litteljohn,
Washington.

December may be a thirteenth month for the honey and health stores raising Christmas Volume to the Nth degree by means of special promotion of honey as the sweetest of Christmas gifts. December can outdo any two months in volume during high pre-Christmas selling, when the honey pots, jars or bottles are enveloped and wrapped with rapturous Christmas packagings that bring joy to the recipient.

It is mainly a question of promotion and of making the gift look like a Gift, of tying the honey jar with Christmassy ribbon and imparting that sprig-of-holly look that fits it for a place under any Christmas tree, or to hang from the illuminated evergreen whose branches envelop the whole world at this blithe season.

Beglamored with all the coruscating beauty of a Christmas gift, the pot of honey opens such avenues of sales as to constitute December not only

a twelfth but a thirteenth or even fourteenth month of the year for the fortunate merchant.

There is naught finer to give to a friend than the jar or pot of honey—nothing with so much real zest or value for the comparatively trifling sum—good for health, and good for Friendship.

But much depends upon its Christmas distinction and aura in volume building, upon its Christmassy air breathed by be-ribbonment upon the gift. An artistic jug or jar of honey that is completely enveloped with all the pomp and properties, or atmosphere and amenities, of the Yuletide, cannot fail to be the nicest present that can be exchanged.

Decorated with all the color of Christmas, its Yule shade of dark green and bright scarlet matching holly berries and holly leaves symbolic of the occasion, the package of simple honey becomes an outstanding present—the Gift of Gifts.

There is no season of the year with the spending power inherent in Christmas—when the thought "It is More Blessed to Give Than to Receive" is put into actual practice. And there is a first thrill and first impression associated with the artistically wrapped Christmas parcel that is the stand-buy of the honey merchant at this time, well remembered and retained long after the honey itself has well served its finest purpose.

—ABJ—

Saskatchewan Honey

Production.

The largest honey crop ever harvested in this province was secured during the past summer. Returns indicate a production $2\frac{1}{2}$ times larger than any previous year. We have a number of records of single colonies producing well over 500 pounds of honey. Honey production figures secured from the recent questionnaire are compared with 1935 below:

	1935	1936
Number of beekeepers	2,680	2,998
Number of colonies	14,079	17,062
Average production—		
pounds per colony	74.7	155.1
Comb honey produced		
(pounds)	19,390	52,879
Extracted honey produced		
(pounds)	1,031,971	2,583,396
Total (pounds)	1,051,361	2,636,275
Total Value	\$117,685.66	\$263,114.05

Honey Wins.

Eight exhibits of Saskatchewan honey were forwarded to the Imperial Fruit Show, Liverpool, England, held from October 30th to November 7th, 1936. Here they were entered in three classes and competed with honey from all parts of the British Empire. A major prize was secured in each of the three classes. Advertise these wins and Saskatchewan honey to your customers.

1st prize—6 jars granulated honey—A. I. Smith, Regina.
2nd prize—6 jars liquid honey—J. G. Carr, Govan.
2nd prize—12 jars granulated honey—A. I. Smith, Regina.

Honey Getting

PART VII

Continued from October, page 511.

Systems of Management in the Clear Brood Nest Method

—How to Use Clear Brood Nest Systems.

By E. L. Sechrist,
Tahiti.

When considering this discussion of beekeeping practice and relating it to any given system of apiary management under observation, it is desirable that the first comparison should be made with the one-story clear brood nest system because that embodies all the necessary practices in their simplest form. The beginner in practical beekeeping would also do well to use the one-story clear brood nest system until thoroughly familiar with all the practices involved, and the reactions of the bees to these practices; otherwise he is likely to omit or neglect some factor essential for success. After learning how bees behave under the one-story clear brood nest system, he may then safely make use of one of the two-story systems described, or of their vari-

ations. While he has only a few colonies, he will have plenty of time to use a one-story system. As the number of his colonies increases and as his experience grows, he may want to use a two-story brood chamber instead of one-story, or to evolve a system of his own; but, all the time, the eight essentials of practice as given in previous issues should be borne in mind.

In all beekeeping for honey production, whatever clear brood nest system is followed, whether it makes use of (1) a one-story brood chamber or (2) a two-story brood chamber throughout the year; or (3) a two-story brood chamber until the beginning of the honeyflow, the basic idea is that the usable brood nest must be large enough so that the queen

can lay as many eggs as are needed to build up a colony in standard spring condition so that it will reach standard honey-storing strength at just the right time, neither too early nor too late. This brood nest must also be immediately under the supers in which honey is to be stored.

If the locality is such that a colony will build up and attain standard honey-storing strength too early, then disturbed conditions, cessation of brood rearing, and swarming will naturally result. In such a location the bee master finds a way to have his colonies reach the right strength (his own standard of strength) a little later, usually either by (1) taking away brood or bees for use in equalizing or for nuclei; (2) by requeening at a certain time and leaving the colonies queenless for a short period; or (3) by dividing these strong colonies at the exact time that will permit each part to build up to standard honey-producing strength at the right time. The third procedure is perhaps the most difficult, requiring more knowledge and experience, while the first, which is a vital part of the one-story clear brood nest system, is the easiest, but requires more labor.

Only by correlating his system of apiary management with local conditions does a beekeeper become a successful honey producer. Whatever system of management is followed, the successful operator uses the principles involved in the practice of the clear brood nest method, as discussed in previous issues. With these principles as a part of his beekeeping practice anyone may work out such a system of management as best suits his own locality and his personal preference.

The three principal clear brood nest systems and variations of them.

(1) Use a one-story brood chamber all the year.

One of the reasons for using a one-story instead of a two-story brood chamber is because it requires a minimum of equipment. If no increase is wanted, two to five extra hive bodies should be enough for 100 colonies.



The queen is kept down by the use of an excluder.



This is to be judged a colony of standard honey storing strength.

It is particularly applicable when the operator visits his bees frequently and regularly. Besides being an excellent system for the production of comb honey, it is also satisfactory for producing extracted honey.

This one-story clear brood chamber system is the best for the use of those who wish to study bees intensively, to become experts, or "bee masters." When the student has mastered the principles involved, he can adjust and simplify his practice in accordance with personal preferences and local conditions, evolving a system of management requiring a minimum amount of man-labor and employing either a one-story or two-story brood chamber with equally good results. Knowing the amount of brood needed, and when it must be produced to secure his standard colony, he may even devise a plan of work involving annual requeening of all colonies and no changing of queens during the honey season. He may also modify other details of practice, always keeping in mind the importance of the principles which underlie the factors involved in honey production and the essentials of management as already discussed.

(2) Use a two-story brood chamber all the year.

Some modification of the essentials of management as given for a one-story brood chamber will be necessary when a two-story brood chamber is to be used all the year. This system requires more equipment but less personal attention to each colony. It uses less man-labor and more bee-labor.

Many operators fail with the two-story brood chamber system, usually because they permit honey to be stored, too early in the season, in the upper story of the brood chamber, thus separating the supers from the brood by considerable sealed honey.

Such separation, at the onset of the honeyflow, will result in failure as, until the bees are working well in the supers, the brood nest must be kept in that story of the brood chamber which is immediately beneath the supers, and with brood well up to the top bars until considerable honey is stored in the supers. If a colony is permitted to begin storing honey in the upper part of the frames in the brood nest it is very reluctant to enter empty supers placed above a queen excluder. Those operators who are successful in using a two-story brood chamber all the year insist that the first honey of the flow must be stored in the supers and not in the brood chamber. This seems to be the most important point in getting a good crop of honey when two-story brood chambers are used.

In this two-story brood chamber system the queen is never permitted to enter the supers at all, a queen excluder being used whenever supers are on the hives. In the spring the brood nest should be in the upper story of the brood chamber and when brood appears in the lower story several frames of it are lifted into the upper story while frames of honey from the upper story are put below; the upper story is thus kept as the brood nest and becomes entirely filled with brood. If a queen is very prolific and needs more room for laying, sealed brood from the upper brood chamber may be placed in the lower one, or removed and given to other colonies, thus keeping in the upper brood chamber a clear brood nest with sufficient space for egg laying until the honeyflow is well under way.

Queen excluders and supers are put on at the beginning of the honeyflow, the brood nest at this time being in the upper brood chamber, extend-

ing all the way across it, with no strip of sealed honey above the brood to prevent the bees from beginning work in the supers immediately and continuing as more supers are added.

A variation of this system which may be used in some locations even without queen excluders is to have eight frames of brood in the lower brood chamber and four in the center of the upper one. The remaining frames in the upper brood chamber, whether or not an excluder is used, are for storing honey and are removed and the honey extracted at the same time as that in the supers. With such an arrangement, i.e., with the outside frames in the upper brood chamber used for honey and the central ones full of brood, the queen seldom lays in the supers when there is a clear brood nest of twelve frames. If the twelve frames which comprise the brood nest are not permitted to become filled with honey, this plan works well for some operators. It will be noted that this variation, by the use of the honey frames at each side of the four frames of brood in the upper brood chamber, fulfills the previously mentioned requirement that no honey should be stored between brood chamber and supers unless it can be removed with ease.

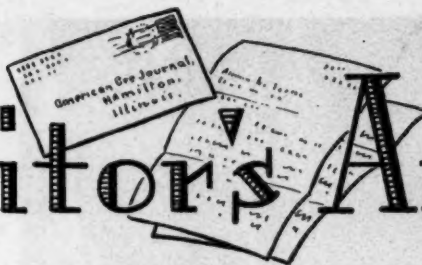
In either the main plan or the variation, when the honeyflow is well on and the bees are working well in the supers, and when further egg laying would produce bees too late for the honeyflow, the colony is permitted to fill the upper brood chamber with honey for winter stores, the queen being crowded down into the lower brood chamber which now contains the brood nest. The time when the queen should be crowded out of the upper brood chamber depends on the season and the length and character of the honeyflow, and must be determined by the operator from his experience in the location.

When egg laying has thus been retarded because of crowded brood chambers, probably during late July and early August, the colonies usually increase their brood rearing in late August and September, often continuing into October, and thus produce colonies containing sufficient young bees to winter well. Sometimes, however, if the fall flow is very heavy, the bees may fail to expand the brood nest enough to insure a good winter colony unless the queens are young and vigorous.

If the system of management requires requeening during a fall honeyflow and there are several frames of brood in the upper brood chamber besides those in the main brood nest below, a temporary combined bottom board and cover can be inserted between the two brood chambers. The old queen remains in the lower brood chamber and in the upper one is

(Please turn to page 590)

The Editor's Answers



Keeping Unfinished Aster Honey

I have 75 to 100 colonies of bees scattered about over a considerable amount of territory. I just keep one super on each colony and remove the honey as they fill the supers. The honeyflow was cut off suddenly about ten days ago leaving lots of unfinished honey in the supers. Now this honey was made from the aster weed bloom (locally called frost weed, but I think it is the aster). Anyway, any unfinished or uncapped honey made from the aster weed granulates as soon as the cold weather gets well started.

Will this uncapped honey keep after it is extracted?

Now if I do extract it, is it better to put the empty supers on the brood chambers or keep them off? Or in other words, will the bees winter better with or without the supers?

I do not have inner covers under the lids and would the bees do better through the winter if I had inner covers on them?

Will a colony of bees go through the winter on thirty pounds of honey?

TENNESSEE.

Answer.—It is very probable that the uncapped honey which you mention will keep if extracted. However, sometimes there is a tendency of aster honey to ferment when gathered very late and if that happens it will help to heat it, being careful not to let it boil.

The bees will probably winter quite as well if you remove the supers, providing there is plenty of honey in the hives. As to inner covers I like the double cover and use an inner cover but do not know that the bees are likely to winter any better than with the single cover. The double cover is of some value since the air space between the two helps to avoid getting the hive so hot in summer and also prevents the heat from being lost so quickly in winter.

Thirty pounds of honey should be enough to carry a colony of bees through the winter but in case of unfavorable weather in the spring they may need feeding to enable them to carry on spring brood rearing and build up rapidly. If the spring is favorable they may get enough honey in the field.

ABJ

Sugar Syrup for Feed

How much sugar by weight is required to make a pound of honey? VERMONT.

Answer.—For fall feeding use two parts sugar to one water by weight or volume either way, bringing the sugar to a boil with speed or melting the sugar in boiling water, using a tablespoon of tartaric acid to every hundred pounds sugar to prevent granulation. A ten-pound friction top pail of this syrup fed to the colony results in seven pounds of stores. From this figure you can estimate the amount of syrup to feed every colony you have.

ABJ

"Web Worms"

I am a farmer with a few bees for home use. My trouble is web worms that kill the bees in fall and winter. What will I do about them? TEXAS.

Answer.—Your difficulty is wax worms and not web worms. If you have good strong colonies of Italian bees, you will not be

bothered. Wax moth larvae develop wherever combs are left unprotected. In the spring when combs are in the cold, they do not show moths until the adult moths lay the eggs from which hatch the young larvae that show up later in the season.

Stored combs may be protected as indicated in the article by Mr. Smith in the November number. Colonies of bees protect themselves if they are kept strong.

ABJ

Buying an Extractor

How many colonies should I have to make it worthwhile to buy an extractor?

VERMONT.

Answer.—It would pay you to buy a small hand extractor for as few as thirty or forty colonies which you say you have. You will find inexpensive ones offered by supply houses.

ABJ

Honey Getting

(Continued from page 589)

placed a choice ripe queen cell. Next day the virgin emerges. She soon mates and establishes a new brood nest. Both stories become filled with honey and the double colony may be wintered in that condition. Removal of the combined bottom board and cover in the spring will unite the two colonies; and the combined colony, now having a young queen, is in standard spring condition and should reach standard honey-storing strength at the beginning of the honeyflow.

In this double brood chamber system, two hive bodies of ten frames each, all containing choice, dark, all-worker brood combs, are reserved for the use of the queen and for winter stores. Less time is required in management than when only one brood chamber is used. Considerable good pollen is also likely to be stored in these frames for spring use. The storage of pollen is important because the best breeding conditions may require much pollen long before favorable weather permits the bees to gather enough of it from the spring flowers. None of these twenty brood combs are ever used in the supers, which may therefore contain all light-colored extracting combs. Nor is it ever necessary to crowd into the brood chamber, for winter stores, thick, heavy, combs of honey from extracting supers in which only eight or nine frames were used. The fine old brood combs of the double brood chamber never go into the extractor and are, consequently, not injured as extracting combs often are, and

therefore remain useful for brood rearing much longer. Little pollen gets into the extracted honey when this plan is used because bees store pollen chiefly in combs adjacent to brood.

Use is sometimes made of shallow super frames having closed end bars, and spaced nine in a super. Such frames are easily handled and transported without damaging combs and causing leakage, and the combs are kept white and free from brood and pollen and in condition for producing honey of the finest quality. These frames are admirably adapted for use in those clear brood nest systems in which queens are never permitted to lay eggs in the supers.

The use of a two-story brood chamber all the year round should be more common. It is satisfactory for the production of comb as well as extracted honey. With less man-labor it gives results equal to those attainable where the one-story clear brood nest system is used and, owing to the abundance of room available for the brood nest, congestion, crowding, unbalanced conditions and consequent swarming are more easily controlled. It also simplifies the control of American foulbrood because no diseased larvae can ever be elsewhere than in the two brood chambers.

Under this system bees need practically no attention so far as winter stores are concerned; as the upper story, toward the end of the honeyflow, becomes practically filled with a fine quality of sealed honey. A number of users of this plan bore a hole with an auger in the front of the upper brood chamber for a winter entrance and keep the lower entrance closed until spring. The bees can control such an upper entrance readily, as they will have worked into the upper story for winter. This auger hole cannot become clogged up as the ordinary bottom entrance often does if many bees die during a period when they cannot easily be carried out.

While the amount of honey produced per colony under this system does not exceed that obtained where a one-story clear brood nest system is used, expert care at very short intervals is less necessary. An extra hive body with a set of brood combs is, however, a necessity for each colony in order to provide it with a two-story brood chamber.

Honey and Arthritis

By Elmer Carroll,
Michigan.

THE topic of bee stings and honey in connection with rheumatism seems to be under constant discussion. And it is no small wonder; for rheumatism, whether inflammatory, sciatica, lumbago or arthritis, is one of the most annoying afflictions of mankind. The patient is always looking for some form of cure or relief, and what often helps one does not help another. There is much about rheumatism in its many forms which has confused the medical profession. But constant study of acute diseases has developed certain theories that seem to be leading out of the confusion.

For instance, the depression has caused hundreds of cases of arthritis to develop. One of the known facts regarding rheumatism is that it always attacks the person whose physical strength has been impaired by one of the following causes: Infected teeth; tonsils; appendix; prostate gland; overwork; nervous breakdown, or exhaustion. Perhaps the last two causes are responsible for most of the cases. With overwork must be classed undue exposure to adverse weather conditions.

Arthritis, that form of rheumatism which stiffens the joints and often results, in chronic cases, in ankylosis or hardened joint water, seems to be more common today than ever; and as that is the form of rheumatism with which I have been personally acquainted, it is naturally the subject of this paper.

Whether or not arthritis is hereditary, as some claim, has not been established. Fourteen years ago my mother, who seemed always to be doing more than she should, was forced into an unpleasant relaxation of her activities by an attack of arthritis that set in after an operation for mastoid. Owing to lack of proper treatment, one knee became permanently stiffened and she was forced to the use of wheel chair and crutches.

No one was more surprised than I, nor more frantic, when, in the spring of 1930, I felt a queer numbness in my knees upon arising in the morning. I will admit that I was, like many others, ignoring the laws of nature and falling far short of getting the hours of sleep and rest that my body craved. But on top of this came the loss of a job paying \$300 a month, the loss of a large amount of money invested in real estate, and last, the loss of a constant friend to

whom I had confided all my troubles—Ruff, a beautiful police dog.

I resorted at once to the climate of northern Michigan, where I had spent my boyhood. But it seemed that the outdoor exercise and climate were, perhaps, coming too late; for I was rapidly losing ground, until by November I was confined to bed with arthritis in every joint. Up to this time the only medical suggestion which might have benefited was that of the local physician, who advised complete rest and a moratorium on worrying. This doctor, an authority on dieting and diabetes, perhaps saved me by his constant suggestions that I try this or that in diet or treatment. But it is difficult to get anywhere with arthritis or any other ailment unless a course is mapped out and followed rigorously.

There is talk at present regarding acidity and rheumatism, and a definite link can be established between them. There is also much talk about starch poisoning and unbalanced diet, vitamins and calories. One doctor invited my eternal enmity by stating to my face, when it seemed that it was of no use to struggle on, that there was nothing to do but await my time. A later doctor, after doing all he felt he could, merely said, "Now it is up to you. If you get well or find any relief, it must be by your own study of your case and your own efforts and outlook on life." What a different version!

This all leads to what my study has been and its pleasant results. It is of first importance that the body should function properly in eliminating waste. This brings us to colitis. Colitis is often the result of nervous exhaustion; arthritis is often traceable to colitis. If the body is charged with acidity, elimination is the way out; and diet must, of course, play its part in the cleansing and rebuilding of the body.

In all diets I have studied the antacid or detoxication diet and the building diet seemed too intermixed. They should be separated and followed as separate courses. So, in order to make my schedule function with what I thought would be the ultimate in results, I arrived at the following diet which was so definitely satisfactory, that I naturally wanted to tell everyone about it. Many have already found relief by the simple course, and it has enjoyed the favorable comments of many physicians and dieticians. The use of honey in

place of cane sugar was upon the advice of a doctor.

Seven-day Detoxication Diet

This diet is designed to rid the body of excess weight, superacidity, and waste tissue.

The vegetable broth for this diet is made from a bunch of carrots, a bunch of celery, a pound of spinach and a bunch of parsley. This should make about a quart and a half of clear broth. Strain and set in a cool place. To this should be added a pint of tomato juice and other juices when cooking your vegetables.

Twenty-four hours before starting diet take an herb laxative, repeating it in small doses during diet.

Take a hot Epsom salt bath every night (one pound of salt to a tub of water).

During the seven days you will not eat:

Starches—bread, cereals, potatoes, beans, pastry.

Proteins—meat, fish, eggs, cheese, milk, nuts, legumes.

Fats—butter, cream, oils.

Sugars—cane or beet sugar, candy, raisins, dates, figs.

You may eat as much and as often as you like:

All fresh fruits except bananas.

All green leaves and fresh vegetables cooked and served without sauce or butter.

The same uncooked and served in salads dressed with lemon juice only.

A clear broth made from fresh green leaves.

First Day

Breakfast—Juice of one lemon in glass of hot water; thirty minutes later a large glass of orange juice.

10:30—One grapefruit.

Noon—Vegetable broth; large salad of lettuce and tomatoes and lemon juice.

3:00—Glass of tomato juice.

6:00—Vegetable broth; plate of three cooked vegetables (carrots, spinach, cabbage); salad of grated carrots and celery and lemon juice.

On retiring—One or two apples.

Second Day

Breakfast—Juice of one lemon in glass of hot water; one grapefruit.

10:30—Large glass of tomato juice.

Noon—Vegetable broth; three cooked vegetables (beets, asparagus, onions); salad of mixed vegetables (tomatoes, lettuce, celery, radishes,

green peppers); for dessert, unsweetened berries.

On retiring—Vegetable broth.

Third Day

Breakfast—Lemon juice and hot water; one grapefruit.

10:30—Tomato juice.

Noon—Vegetable broth; vegetable salad; one cooked vegetable; fresh fruit.

3:00—One cantaloupe.

6:00—Vegetable broth; celery and fine cut onion; cooked vegetables (turnips, beets, green peas); unsweetened berries.

On retiring—Vegetable broth or tomato juice.

Fourth Day

Breakfast—Lemon and hot water; thirty minutes later a large dish of berries.

10:30—Large glass of orange juice.

Noon—Vegetable broth; one or two cooked vegetables; large dish of fruit salad.

3:00—Grapefruit.

6:00—Vegetable broth; cooked vegetables (carrots, asparagus, beet greens); large salad (carrots, cabbage, pineapple); fresh fruit.

Fifth Day

Breakfast—Lemon juice and hot water; large glass of orange juice; berries.

10:30—Vegetable broth or tomato juice.

Noon—Vegetable broth; two cooked vegetables; combination salad.

3:00—Fruit.

6:00—Vegetable broth; cooked vegetables (beets, cauliflower, spinach); fruit salad; cantaloupe or berries.

On retiring—Vegetable broth or tomato juice.

Sixth and Seventh Days

Same as above for any day.

Breakfast—Lemon juice in hot water; orange juice or grapefruit.

10:30—Vegetable broth; tomato juice or fruit.

Noon—Vegetable broth; salad; cooked vegetables; fresh fruit.

3:00—Tomato juice, orange juice or fresh fruit.

6:00—Vegetable broth; large salad; cooked vegetables; fresh fruit with honey.

The first day of the diet will be most trying and will test your will power; but after the first day it will become much easier. The diet must be followed closely, the salt baths taken regularly, and the bowels must move freely. Tea, coffee, alcoholic drinks and tobacco must be avoided. If a distressing headache develops momentarily, take one or two aspirins for relief. On the sixth or seventh day you should begin to feel gratifying results. Note that on the last two days honey is added as an energy food.

It is suggested that in extreme cases the above diet be followed for several weeks and be taken at least four times a year.

The Building Diet

First Day

Breakfast—Two egg yolks beaten up in a large glass of orange juice.

Noon—Salad of pineapple, cream cheese, nuts; cooked carrots in lots of butter; green peas in cream.

Dinner—Cream of tomato soup; fresh fish (not fried), or two lamb chops; vegetable plate (beets, spinach, onions, with plenty of butter); fruit salad with cream cheese dressing.

Second Day

Breakfast—Two egg yolks beaten up in large glass of orange juice; four or five figs with cream.

Noon—Cream of lentil soup; salad of tomatoes and lettuce with French dressing; figs and cream cheese.

Dinner—Baked fish or two lamb chops; fresh vegetable plate with plenty of butter; tomatoes and celery; prune whip.

Third Day

Breakfast—One egg yolk in large glass of orange juice; handful of nuts; berries and cream.

Noon—split pea soup; large fruit salad with cream cheese dressing; celery hearts, nuts and raisins.

Dinner—Cream of asparagus soup; broiled sirloin steak; vegetable plate with butter; fruit cup with honey.

Fourth Day

(Nuts, raisins, and dates between meals; no bread or potatoes until the fifth day.)

Breakfast—One egg yolk in large glass of orange juice; handful of nuts; prunes with cream.

Noon—Any cream soup; salad of pineapple, lettuce, oranges, cream cheese dressing; whole wheat wafers.

Dinner—Chicken, roast or fricasse; young carrots, string beans, spinach; carrot and celery salad with mayonnaise; fresh fruit cup and honey.

Fifth Day

Breakfast—Fresh fruit with honey; one orange; nuts.

Noon—Large fruit salad, buttered whole wheat toast; fruit cup with cream.

Dinner—Large baked potato, plenty of butter; fresh asparagus; lettuce with mayonnaise dressing; figs with cream cheese dressing; fruit cup or watermelon.

Sixth Day

(Use honey on fruits for energy food. Take a teaspoonful as often as you like during the day.)

Breakfast—One orange, nuts, whole wheat toast.

Noon—Pea soup; combination sal-

ad with French dressing; two slices of whole wheat toast.

Dinner—Roast lamb; young carrots, new peas in cream; fruit salad with cream cheese dressing; baked apple with cream.

Seventh Day

Breakfast—Egg yolk in orange juice; whole wheat toast and butter.

Noon—Vegetable broth; whole wheat bread or baked potato; jello or fruit desert with cream.

Dinner—Chicken; spinach, string beans; combination salad; whole wheat bread; fruit cup and honey.

When taken in the winter time the diet will, of necessity, be difficult to follow in some localities, but a cheaper and just as effective diet can be had by using canned vegetables. In place of nut meats a paste of honey and peanut butter can be used and taken freely between meals.

This building diet should be followed several weeks or indefinitely while not on the detoxication diet. It may be varied to suit the taste or convenience bearing in mind that the following foods are to be used:

Whole wheat bread, baked potato, egg yolk in orange juice, honey, chicken, lamb, sirloin steak, fish, cream cheese, mayonnaise, butter, cream, fresh fruits, dates, raisins, figs, nuts, prunes, cooked vegetables and salads of raw vegetables such as carrots, lettuce, raw cabbage, onions, cucumbers, celery, asparagus, string beans, green peas, tomatoes, beets, spinach, cream soups.

Avoid white bread, pastry, dry beans, corn, potatoes (except baked), spices, pickles, pork, sugars (except honey), tea, coffee, alcoholic drinks and tobacco.

Care should be used in eating honey so as not to sicken of it. Take it slowly and in small quantities. Honey is handled easily when used as a dressing on fruits or salads by warming it to a consistency that can be easily poured.

—ABJ—

Ventilation Under Snow

We found the holes in ends of hive bodies served their purpose to greater extent than ever before. The hives in many instances were drifted entirely under with snow, some of them to a depth of perhaps two feet, and the drifts remained so during the cold spell which lasted for several weeks.

We never worry about the bees smothering, even when drifted under if we have provided the hole in the end.

I have not to any extent tried out the top entrance for wintering, feeling that the hole in the end answers equally as well, requires less effort and also perhaps less expensive.

J. H. Sturdevant,
Nebraska.

Practical Winter Cases



HERE are two pictures of my home yard, one as it appeared in April and the other in early September two years ago. The winter scene is from a back corner angle and the summer scene from a front angle. There are 106 colonies.

Winter cases are demountable, all parts interchangeable, which are quickly set up or taken down. Each case holds two colonies. The covers

are telescope and are covered with 26" gauge galvanized sheet iron, with a 6" packing space on all sides except the top. That is more when food chambers are not used. I have discarded the food chambers for the deep hives.

I have used these cases for eight years and am well satisfied.

William Howard,
Illinois.



—ABJ—

Honey Oatmeal Cookies

1 1/2 cups sugar
1/2 cup honey
2 eggs
1 cup melted shortening
1 teaspoon soda
4 tablespoons hot water
1 teaspoon cinnamon
3/4 teaspoon cloves
1 cup raisins
2 cups rolled oats
Flour

Cream shortening and sugar. Add honey and eggs well beaten. Beat thoroughly. Add one teaspoon soda dissolved in the hot water, rolled oats, spices and enough flour to make stiff. Roll to a medium thickness and bake in moderately hot oven.

Mrs. Benj. Nielsen,
Nebraska.

In Defense of the Beginner and the Small Beekeeper

By J. W. Peterson,
Washington.

I would like to say a word in defense of the small beekeeper. I sometimes see in print or hear remarks about the small beekeeper, that he is a disease spreader, produces little or no honey, and if he does produce any honey he is a price cutter. Maybe you think so.

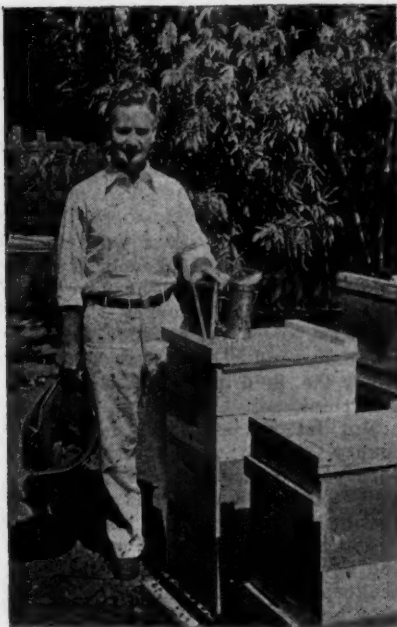
But let me ask, why is it your county and state associations and perhaps the national associations as well, have fallen off in attendance and interest during the last twenty-five or thirty years? Is it not because you have lost the beginner and small beekeeper? These are seldom found at a bee convention any more. And the reason you have lost their support is because you do not take the time to discuss their problems. In other words they have been crowded out and your time is taken up with what you may call weightier problems, such as production on a large scale, disease legislation, freight rates, reading of bills that have been proposed to go before the legislature, etc., all of which does not interest the beginner and small beekeeper very much.

Then the beginner and small beekeeper as enthusiastic advertiser of honey is something not to be overlooked. You know the beginner in his enthusiasm is always talking about the good qualities of honey to his friends, in the shop where he works, and in fact to nearly every one with whom he comes in contact.

Let me quote from an editorial in the American Bee Journal, August 1933, as follows: "No industry can long prosper without the renewal that comes from the enthusiastic support of the youth. Beekeeping owes much to its old men, and it is fortunate that age can find a solace and satisfaction in the apiary; but only the young can keep pace with changing conditions."

Then again in the same Journal, Miles E. Miller says: "Beekeeping is in danger of losing its soul." This he says is being lost to us through the overstress of commercial aspects of beekeeping.

Sometimes I slip in at a beekeepers' meeting, or as they generally call themselves, "Honey Producers' Association." If I can keep from telling how extensive a beekeeper I am, all well and good. But imagine my chagrin when someone steps up to me and asks, "How many colonies do you operate?" When I tell them, often the day is done for me. They walk away and speak to me no more.



Dr. John E. Eckert stops working long enough to submit to a photograph.

Beekeeping at the University of California

By Austin E. Fife,
Massachusetts.

We knew Doctor John years ago when he was a North Carolinian. Uncle Sam grabbed him for the Bee Culture Office in war days. Then, westward, ho! He's in pleasant places now, if author Fife knows his facts.

THE Division of Beekeeping at the Davis Branch, of the University of California is this year being expanded by the addition of a new building fully five times as large as the former quarters. This expansion will make the department one of the finest places in America for scientific research and instruction in beekeeping. The expansion is being carried out under the supervision of Dr. John E. Eckert, Assistant Professor of Entomology, who is in charge of research, teaching and extension in beekeeping. Dr. Eckert has been at the University of California for five years and was previously Associate Apiculturist in the United States Department of Agriculture at Laramie, Wyoming.

When I called at the University Farm I found Dr. Eckert with veil and smoker in the University apiary busily studying a frame of queen cells (see picture). But he was not too busy to show me the buildings and equipment of the University, to

explain the nature of the research work which he is doing, and above all, to show me the new quarters which are not yet completed and to explain in detail the service to which each room is to be put.

Up to the present time Dr. Eckert's work has been carried on in two small buildings. This summer, however, a three-story building which adjoins his former quarters has been turned over to him. The new building will be adequate for excellent work in instruction and research. It has four rooms on the main floor—one for Dr. Eckert's office, a second for scientific instruments and photographic equipment, a third for a honey laboratory, and finally a classroom with seats for some thirty students and ample room for charts and blackboards. The basement, which is level with the ground at the rear of the building, will serve for storage room and for certain types of experimental work.

The third story will form a still

more interesting part of the new establishment. It will be devoted entirely to a beekeeping museum. The University already has a number of hives and other things which have been important in the history of the industry. This collection, together with other additions which are of interest to the beekeeping world, will be housed in the new quarters. I am sure that Dr. Eckert will appreciate any contributions that may be made for his equipment collection.

There is another feature of the new establishment which is of special interest. There is just enough fall in the ground between the front and the rear of the new building on one side to provide a natural small amphitheater. This place will be terraced off so as to form an ideal spot for demonstrations before groups of students and beekeepers and it will eliminate the close crowding around the hives which demonstrations on level ground necessitate.

Nearly every beekeeper has one



Above, a view of the yard of nuclei seen from the site of the proposed amphitheater where demonstrations are to be made. On the right of the picture is a corner of the new building.

Below, a part of the University apiary at Davis. The newly acquired building of the Division of Beekeeping, which has just been moved onto a permanent foundation, is seen beside the former quarters.





Some students of beekeeping, with Dr. John E. Eckert seated at the left. The anatomy of this bee may be studied without a microscope.

or more problems which tend to take some of the pleasure from his work and Dr. Eckert is no exception to the rule. The practice of broadcasting poisons by airplane in an attempt to control tomato insects in fields adjacent to the University Farm has resulted in the poisoning of the bee forage over an area of one and one-half to two miles in radius from the treated fields. The novelty of renewing nuclei and colonies or of building up those greatly weakened by this unethical practice is beginning to wear off after the third successive season. It is disastrous, to say the least, to many types of research work which he is trying to carry on. In Dr. Eckert's opinion the promiscuous broadcasting of poisonous dusts by airplane or the application of poisons by any means that will not confine the materials to the fields treated constitutes a greater threat to the beekeeping industry than any disease now known to be present in this country.

It is worth a long trip to any beekeeper to see how skillfully the apiary and buildings are arranged and to hear Dr. Eckert explain the nature

of his own research. The trees and shrubs which surround the apiary, the creek which runs nearby, the excellently regulated apiary consisting of approximately eighty colonies and one hundred and twenty-five nuclei, the scholarship which is offered to a properly qualified student of beekeeping, and Dr. Eckert himself, with his devotion to true science and to beekeeping, make of the Davis branch of the University of California one of the finest places for scientific research in beekeeping which I have ever had the pleasure of visiting.

—ABJ—

Beginning With Bees in Maine

A 28-page bulletin by Charles O. Dirks, Assistant Professor of Entomology, published by the Extension Service, College of Agriculture, University of Maine, Orono, gives the usual description of beekeeping in the state with a list of honey plants, how to start with bees, examine and handle them, tools required and equipment to be used, with pictures to illustrate. Copies may be obtained by writing to the address given.

Goldenrod As a Honey Plant

By Robert M. Mead,
Vermont.

Year after year the pastures and waste lands of New England are covered with goldenrod bloom with apparently little variation in the amount of bloom. But the honeyflow from this plant varies from almost nothing to a heavy flow that allows strong colonies to store sixty pounds or more in a few short fall days.

This variation is one of the major mysteries of nature to which no man has yet found the complete answer. There are recognizable factors that have some influence but they never seem to tell the whole story.

In the years that I have kept track of the goldenrod flow I have noticed the following points of interest: Good flows from goldenrod usually follow a summer when there has been plenty of rainfall and a very moderate or indifferent crop from summer sources. The early goldenrods, which begin to bloom as early as the first of August are worked by the bees at times but no noticeable amount of honey is gathered from them. The real flow (in the years when we get a real flow) comes between the 1st and 21st of September. The best conditions for a good flow from goldenrod seem to be hot fall days—a cloudy, but not a rainy, hot day giving the greatest flow. Cool nights, down almost to freezing, should go with the hot or warm days.

Goldenrod nectar apparently does not flow below 60° F. and only moderately at 65° F. but as soon as the temperature reaches 70° F. or higher the bees become very active. Changeable weather with cold north winds, driving showers or excessive dampness seem to spoil the chances of getting a crop from this plant.

Goldenrod honey, when the flow is rapid, is a fair table honey when well ripened. It is yellow in color, smooth and mellow in taste if properly ripened and aged but may have a characteristic sharp taste if too thin or "green." In the years when the flow is poor what honey is gathered is often dark in color and rather too sharply flavored for most tastes. A characteristic penetrating but pleasant goldenrod odor is very noticeable about the apiary during a good flow.

Goldenrod honey gathered during a good flow seems to be O. K. for wintering. Fall gathered honeys that are not good for wintering are probably a combination of slowly gathered goldenrod and aster honeys, doubtless high in resin content and with a tendency to early granulation.

Honey in Newspaper, Bakeshop and Home

By Mrs. Benjamin Nielsen,
Nebraska.

NATURE'S sweet has been receiving some excellent publicity and free advertising in one of Nebraska's leading daily newspapers. As this publication goes into several states and has many hundreds of thousands of readers, it is indeed an effective way of promoting honey.

The household editor of this newspaper is honey-conscious and aware of its possibilities in our diets. She has initiated the inexperienced, in the use of honey and supplied excellent recipes to those who make a practice of using honey in cooking and baking.

This editor's column is the only one of its kind I have ever observed. For the past five or six years, each Friday and Saturday, five prize winning recipes, each awarded a prize of one dollar, were printed. The readers wrote in requesting certain recipes and contributions are sent in accordingly. For example: "The requested recipes for next week are for simple economical luncheon dishes for winter; fruit cake; a cookie, somewhat honeycombed, made with honey, but containing no fruit—Will the readers please keep these requests in mind in sending in contributions?"

On each Wednesday this editor had a number of timely, helpful recipes printed. The following is a further example of her splendid work for honey. Very cleverly she leads up to a most delicious recipe thus: "The menus and schedules don't mention them, and the cook books don't give them a chapter, but who was ever known not to eat them—these between-times foods. It may be late at night when the inner man won't let you go to bed hungry; it may be after school when the young things troop home with visions of cookie jars speeding their steps; it might be in the middle of the afternoon when a cup of tea and its accompaniment serves to divide the afternoon from evening. And it may be at any old time at all, just because somebody is hungry. But sometime or other a bite or a sup will be indulged in—who says one doesn't like to eat between meals?" Her recipe recommended for these in-between snacks follows:

After-School Spread

$\frac{1}{2}$ cup orange juice
1 tablespoon butter
1 package dates
1 teaspoon honey

Place all the ingredients in a saucepan and cook over low heat until a thick paste is formed. Stir the mixture frequently to prevent burning. Cool and spread between graham crackers, vanilla wafers or slices of buttered bread. This recipe will be sufficient to cover two dozen graham crackers. It may also be used as a sandwich spread for the school lunch box. The honey, date and orange juice combination is especially well approved by nutritionists and very popular with children."

Isn't this excellent advertising for honey? What a boon it would be for the beekeepers if people were educated to use honey as an "in-between snack" instead of candies, syrups and sugar on bread!

A prominent baker, in a large city, makes an hour specialty of honey spice cup cakes, and advertised them extensively. So successful was this venture that the following week the advertisement carried an advanced price.

Another baker who uses considerable amounts of honey in his bakeshop, and who is a chemist, tells us that he prefers honey in his products, as it reacts favorably in combinations where malt fails to combine to produce the desired reactions.

Women are impressed by and do use the recipes which appear on the pages of their favorite magazines. If you have not noticed, turn through a few of the popular publications for women and note the recipes sent in by readers. It is gratifying to note the increasing number of honey recipes which are being published. These are usually tested by food specialists connected with the magazines and are worthy of a place in one's recipe files. Send in your recipes and give honey a boost.

Write to the food or household editor of your favorite magazines asking for the publication of honey recipes. This is another very good way of impressing the editor—in other words—making the editor "honey conscious" and at the same time getting honey recipes before thousands of homemakers. Advertis-

ing! It takes constant advertising to keep honey before the public.

Beekeepers have a wonderful opportunity to increase the demand for honey by contacting the women who give cooking demonstrations. Two years ago, at a cooking demonstration held in our town, I was eager to learn if any honey recipes would be given or demonstrated. There were none. All of these demonstrator's recipes were exceptionally fine and outstanding. When the session was over I asked her if she ever used honey recipes in any of her demonstrations. Reluctantly she admitted she did not; that she had some very good honey recipes and would like to use them but found she could not depend upon securing honey in many of the towns in which she gave demonstrations. I found she was on the mailing list of the American Honey Institute, too. The Institute had done its part but some beekeepers along the line had failed to do their part by cooperating to the extent of placing honey where it would be easily available.

After the session held on the second day I handed her some of my favorite honey recipes which I had typed for her and gave her an enthusiastic talk on using honey. She promised to use these recipes and she did. She said she would carry honey with her that she might be prepared. This should not be necessary.

Do not miss this golden opportunity to help you introduce honey to homemakers. These demonstrators travel throughout various states, instructing thousands of housewives. Cooking schools are very popular and the women who conduct them are always on the lookout for interesting material and good recipes to present to their audiences. Honey recipes might just as well be included.

Perhaps other beekeepers in various states, may be able to interest newspapers, bakers or demonstrators in their communities and induce them to feature honey in these or similar ways. And this most effective, really interesting advertising should be followed up by the beekeepers. Furnish at all times, a superior grade of honey, attractively packed, to supply the demand that will surely result from such splendid publicity.

Fireweed Flights

By C. M. Littelljohn,
Washington.

Apiaries are accumulating around Puyallup Valley south of Seattle and throughout western Washington, in areas logged off by lumber and logging companies and left in stumpage. Such land in its roughage, or stumpage, has not been found fitted for many farming purposes. It has been a problem in this section, trying to find a worthy purpose for this land, since clearing and homesteading is too drastic an operation and a great hardship on the modern backbone from which the spirit of the hardy pioneer has been extracted. Then, too, full farming and raising of ordinary agricultural crops as in old days, no longer pays in this over-production era.

However, such logged-off land answers admirably for the new honey producer, or man with a few hives and perhaps a few chickens. Some have found such land in the rough a means of affording new health and happiness, and perhaps a fresh start on the road to wealth.

Others "get a kick" out of producing honey as a hobby. Health and happiness are of course the by-products of such a wholesome hobby, as, for instance, W. A. Miller former banker of Puyallup, Washington, has found. He spent his vacations for a number of years on the uncleared stump land of the vicinity, caring for a number of bees. He found not only pleasure and contentment, but also handsome dividends on capital and labor invested in his interesting avocation.

One of the flaming splendors of the logged-off areas in which many are setting up beekeeping is the profuse fireweed. It is not only nature's graceful way of beautifying unsightly stumps of fallen trees, like roots of large teeth left in a scarred and blackened landscape — blackened after inevitable fires—but it is a pasturage par excellent for the honeybees of this particular section of the Pacific Northwest.

Fireweed flames over the landscape, like the bougainvillea of the more tropical countries, and beckons in the breeze to bees swarming around it. Into its tall and heady flowers the bees linger as they sip nectar which they are to distil as a fragrant bouquet of some of the finest honey—a product that commands a premium over honey from producers down the Pacific Coast, imported into northwest markets with added transportation costs.

People have acquired a predilection for this product of the region, for people are attracted by the fireweed of the wide open logged-off spaces,

and are coming to know more and more the fireweed honey which is increasingly produced in a number of the western counties of the fireweed state of the Pacific Northwest.

—ABJ—

Keepers of the Bees

Far away from the city,
Far from the sounding seas,
There live three brothers whom I know—

The keepers of the bees.

Little they care for the world beyond—

Little for cities and seas;
What is a storm or a war or a flood
To the keepers of the bees?

Calmly they live in their rural home,
Their home on the grassy leas;
Calmly they watch the sky's great dome,
The keepers of the bees.

—ABJ—

Alike to them are king and slave;
They try not in vain to please
The whims and vanities of men,
The keepers of the bees.

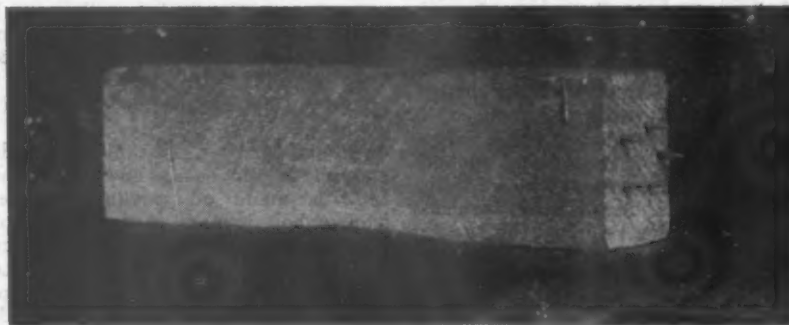
Hatred and wrath were never known
Where they live 'neath the spreading trees;
But joys alone, like their bees, are borne
On the wings of the whispering breeze.

From day to day in their humble way
They see in the lives of their bees
The power that keeps the stars in sway,
And earth's philosophies.

They ask not of man his destiny
Nor of God his secrecies,
But live by the plan of eternity,
The keepers of the bees.

—Henry E. Lanne,
Louisiana.

Handy Punch for Feeder Pails



JUST some nails in a wooden punch block; heads cut off and filed down sharp. A blow of the hammer on the friction pail top and five holes are punched at once, right where you want them, close to the center.

Take good care of these feeders. Better wash and dry them when you are through using them as the small amount of syrup always left, turns black and spoils the next filling of feed.



Pleasant Wax Melting

By J. B. Stuyvesant,
California.

UNTIL recently wax melting was one of the sore spots in beekeeping for me but now it is almost a pleasure.

Before attempting anything in that line I read what I could find on the subject and having no special equipment at hand, decided to try a large iron wash tub over a fire in the yard with a press similar to the Lewis press inside the tub. This enabled me to press the combs under boiling water and get the wax out very well but required very close watching. On one occasion, when I turned away for a few minutes my attention was recalled by a hissing noise and I turned to see a stream of wax running down the driveway and into the garden.

Next, I made an excellent hot water press with an overflow for the wax, similar to the Hershiser press and used it over a larger outdoor furnace which also heated extra water to use in the process.

This worked fine but required too much labor getting wood or brush for fuel and feeding the fire, so, I made a distillate burner for a large cast iron kitchen range and moved all into a bee tight room which I built for the purpose. This burner furnished all the heat required by using four or five gallons per day of cheap stove distillate or poor grade kerosene at a cost of only seven cents a gallon. With a sink and running water at the side of the stove, the outfit was then about as efficient and convenient as any I have seen described. But, there remained to be done, all the pressing, dipping (as much of the wax failed to flow off as per schedule), lifting and handling of the hot, heavy, dripping cheeses over the steaming tanks. Cutting the old combs out of the frames was still hard work and the loss of all the wire plus the labor of re-wiring was considerable. Sometimes the wax worms would destroy some while waiting to accumulate sufficient wax to justify such a job, thereby adding to the loss. My present method avoids all such loss and requires very little labor.

The Outfit Described.

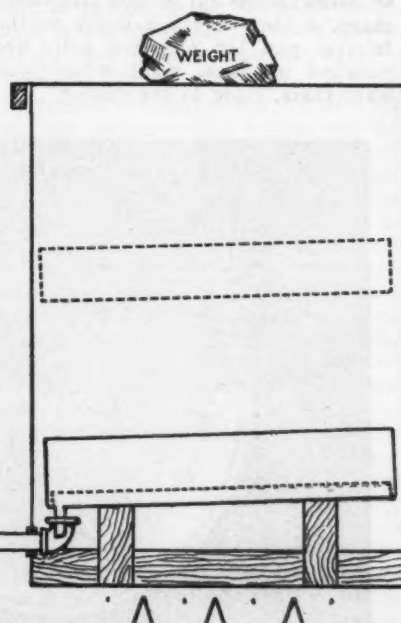
I use a so-called "wickless" kerosene (coal oil) stove which stands 10" high, with two giant burners using $4\frac{1}{2}$ " asbestos kindling rings. This is one of the cheapest stoves to buy and is the safest I know about, as the flame never "runs up" after it is well started. It may therefore be

lighted and left alone for any length of time with perfect safety, as the fire simply dies out when the oil burns out of the reservoir. All this outfit aside from the stove was made in a hurry from old things I happened to have on hand as an experiment, therefore the sizes of tanks, pans, etc., were not of my choice and any other sizes available will do as well if they will hold the combs. On the stove is placed a tank the bottom of which is 10"x22", the depth 29". Centering about $2\frac{1}{2}$ " from the bottom at one end a hole is made and a piece of $\frac{3}{4}$ " pipe about 8" long and threaded on one end for about $1\frac{1}{2}$ " is passed through and made water tight by means of a lock nut and a gasket (cut from the side wall of an old auto tire), on the outside and another lock nut on the inside of the tank wall. This must be screwed far enough into the tank to allow an L to be screwed on and the other opening turned up inside of the tank. This opening will be about $3\frac{3}{4}$ " above the bottom of the tank. A pan about 4" or 5" deep and 1" or 2" shorter than the tank, just wide enough to slip easily down into the tank is made of galvanized sheet iron. A hole is made in the bottom of this pan at one end and a short piece of pipe or tin tube small enough to slip into the open mouth of the up-turned L is soldered underneath this hole. This is to carry off the melted wax. Some sort of support must be

arranged to hold the pan up about $\frac{1}{8}$ " or $\frac{1}{4}$ " above the top of the L at the front end and an inch higher than that at the back end. This is to take the weight off of the L and to provide sufficient slope to drain the wax to the outlet. I simply bent some old auto license plates into the shape of a U and stood these on the bottom of the tank under the pan.

The edges of a piece of galvanized hardware cloth of $\frac{1}{4}$ " mesh are bent up so as to make a tray 1" deep just the right size to fit snugly into the pan. When this is inverted in the pan it serves as a screen, held up from the bottom of the pan 1" by the folded edges. This holds the frames and slumgum up off of the bottom and allows the wax to flow forward freely.

About 2" of water are put into the outer tank and the fire lighted. The pan is slipped down into the tank onto its rests with the spout slipped into the L and the screen inverted in the pan. As many combs as it will take are stood in the pan on the screen, top bars up. Another screen tray made like the first but about 3" deep and with the edges turned up this time, is placed on top of the frames and filled with another lot of frames. A tight fitting cover is now put on the tank, a vessel is placed under the spout to catch the wax (and honey if there should be any) and, now it may be forgotten for a couple of hours if you wish. About half an hour after the water boils a nice stream of wax should be running out. The midrib will melt and allow the combs to separate and the trash will fall to the bottoms of the frames and the screens while the wax passes down and out. The wires are left intact and may easily be tightened for future use if they are loose. Of course, the top must be tight enough to hold the steam in. If the top of the tank is even and smooth all around, a few thicknesses of burlap, canvas or other cloth under a good tight wooden cover with a weight on top will suffice. **Caution:**—In opening the tank always lift the side of cover farthest from you first, as otherwise, the out-rushing steam may scald your face. An hour and a half after the water boils, the wax should be all out and the tank may be emptied and re-filled. Some water should be added to make good the small loss through evaporation. Clinging bits of slumgum are easily jarred from the frames or a knife



quickly passed around them will do it. The slumgum is easily dumped or shoveled out of the screens while warm and steaming and after drying for twenty-four hours makes good fuel for the heating stove.

If this method does not get one hundred per cent of the wax, it comes so near it that the balance is not worth the trouble and cost of getting it. It gave me an average to the comb about the same as the other methods and was more like fun than work. Boiling the frames in lye water cleans them up nicely for future use.

Of course, my outfit is only a small one but with it I can keep all scraps and old comb worked up and out of the way with practically no trouble at all and do other work at the same time. It handles sixteen to eighteen combs in one and a half to two hours.

In the American Bee Journal for June, 1933, Rex Beach, of Idaho, describes an outfit working on similar lines which will handle several entire supers full of combs at a time which should interest those needing a larger outfit.

I still have the other perfectly good hot water press but I do not think I shall ever bother again with any wax press.

Of course, any kind of a stove that will boil the water will serve but the one described requires only one and a half or two gallons of kerosene per day and is safe and reliable.

Marvin Barnes Thrives on Milk and Honey



Here is a picture of Marvin Barnes, little son of Mr. and Mrs. D. F. Barnes, of Waycross, Georgia. He gets his fresh air, sunshine, milk and honey every day.

Mr. Barnes is one of the managers of the commercial apiaries for Mr. Wilder. Marvin loves the bees and may aptly be called a honey-fed baby. He has never been sick and is a happy, healthy contented playmate to all the employees in Mr. Wilder's big organization.

C. H. Huey,
Georgia.

loss of one or two wax moths every night. In comparing the destruction done to the bees by the spider and by the wax moth I think that the spider is much more beneficial than the wax moth is harmful because the spider destroys the wax moth.

The most interesting experience I ever had while on my evening routes was when I noticed by the entrance of the Carniolan colony a good sized wax moth flying about. In another moment she made a dive for the entrance and in that instance the bees became very irritated and started to run around on the front board ready to fight. The way it looked, this promising landing was too hot for her and out she was again in the air. I thought it would be a good thing to see how this moth looked, also to get rid of her, so I caught her with a quick action of my hand.

Going into the house I kept my hand tightly closed. In a lighted room I slowly opened my hand and caught her by the wings with my other hand, as I wanted to be sure that she would not get away from me and raise more of that pesky family. At the same time I crushed her head and observed her thorax and abdomen. I was interested in noticing that her abdomen was as lively as ever and her reproductive organs were no less interesting. Coming to the narrow point with a possibility to stretch out almost a half inch and moving in all different directions, the abdomen serves her for proper purposes. At the first glance of the reproductive organs I mistook them for a sting similar to the one in a bee. So I let it touch my finger nail. To my surprise I noticed little white specks on my nail—alas! these were moth eggs. She laid four more eggs and wiggling with her organs felt that this was not the right place for raising her family.

I began to think that naturally a wax moth lays her eggs in a narrow cavity where her off-springs could not be destroyed so I let her feel the little cavity between my nail and cuticle and she began to lay strings of eggs with the speed of a machine gun up to fifteen and it took all of a side and a half of my nail. Then I gave her a chance on the other side of my nail and after laying one row I let her lay a second row at the tip of the nail and she laid sixty-four eggs in all in about four minutes.

This was a very much unexpected experiment lesson that a moth needs only a very short time to stay in the hive to lay her eggs once she had a chance to get in the hive and she could lay for some time after she is stung by the bees. She could also lay eggs with her suitable organ by feeling for cracks in the hive even at the time when she is being pulled by the bees to the entrance.

Some Observation on the Wax Moth

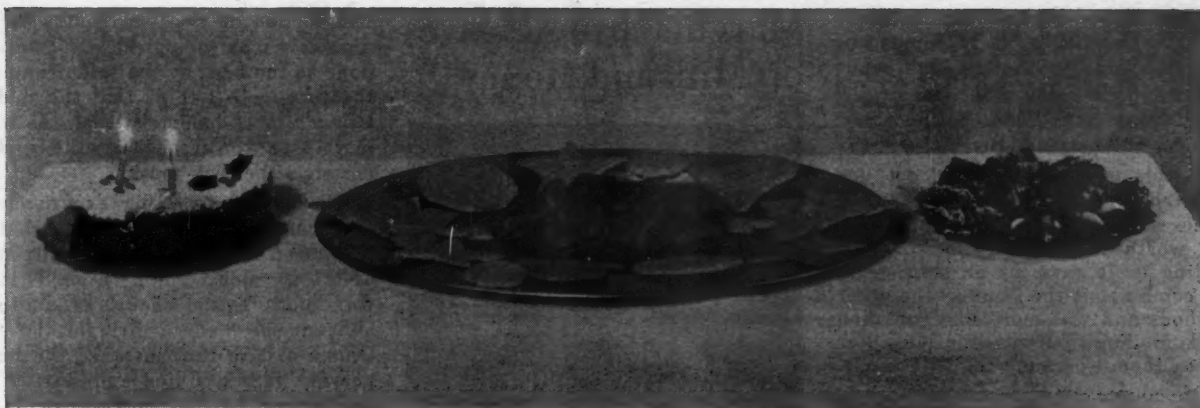
By J. Harmatiuk,
Ohio.

As long as I am only a back lot beekeeper and not fortunate in having the pleasure of observing and working with my bees every day, I never miss the pleasure and refreshment of seeing my bees every evening and listening to their hum. Time of that noble visit is usually between eight and nine o'clock in the evening.

This is the time when the wax moth is most naturally looking for the opening to enter the hive in her busy time. Going out of the house I usually turn on the lights in the back of the house or garage and I notice a good many moths flying toward the light where quick action of the hand will relieve any moths flying forever. Destroying moths by lights has been very effective in orchards and could

be practiced in the apiary to some extent.

Other silent helpers in destroying the wax moth are the spiders. I never did like spider webs around the sides of the hives, under the covers and across the front where bees entangle themselves and serve many a menu for the spiders. But when I look more closely on the webs in the evening I would find most of the time a wax moth in the clutches of a spider. By morning the little that was left of the wax moth or any other insect, after the spider's supper, is thrown off the web or taken to the hide-out, and if you look for it you will find it there. After this observation I hesitate to decide which is more to be desired, loss of one or two bees or



Honey chocolate cup cakes, rolled cookies, date squares and uncooked candies.

Honey for the Holidays

By Mrs. Charlotte H. Merrell,
New York.

CHRISTMAS is near. It is time to fill our cookie jars and tin boxes with honey cookies and candies. The word "Christmas" may not have the same meaning for all of us. For some it is of great religious significance. Others have almost forgotten this meaning as business interests have emphasized the gift angle. For all of us it is associated with feasting—a day when our tables are laden with good things to eat and the children's "visions of sugar plums" have become a reality.

It is fascinating to read of some of the Christmas traditions that have been observed through the ages in foreign lands. The Swedes spend hours cleaning their homes for the holiday season. To harbor dirt is as bad as to harbor evil thoughts, they say. When their homes are shining, they start to bake delicious fancy breads and dainty cookies. These are served with quantities of coffee to the informal groups of friends who gather each evening until Twelfth Night. The Germans also make many little Christmas cakes and are famous for their "honig kuchen." In Holland they have a custom of giving gingerbread dolls. Rich, spicy, and fragrant they are! Christmas is not complete without them.

We have our traditions of Santa Claus, of stockings "hung by the chimney with care," of Christmas trees and lavish family dinners. No doubt many of us can remember the delicious odors that told us mother was doing the holiday baking. It was a fragrance that heralded Christmas as surely as the fragrance of the Christmas tree and evergreen wreaths. Perhaps it is because we always had a comb of light clover

honey on our breakfast table Christmas morning that I think of honey as especially suitable for the holiday season.

Honey is a wonderful help to the holiday cook. It allows her to make her fancy breads, cakes, cookies and candies well in advance of the last minute bustle. She can really enjoy their preparation and rest secure in the knowledge that her products will be improved if properly stored in a covered stone crock or a tin box. Of course she can make her honey gifts early, too. A loaf of date nut bread or a box of honey cookies or candy is a very acceptable gift and it carries a little of the giver to the one who receives it.

Christmas is a day for children's pleasure and honey is a children's sweet. It is more readily digested than cane sugar and sweet enough to satisfy their craving for sugar without overburdening the stomach. It combines perfectly with dried fruits and nuts in healthful delicacies. Let the children prepare some Christmas candy themselves. A child of three will be delighted to turn the food chopper for the preparation of the lollipops of dried fruit and honey. An eight year old can make the uncooked chocolate candy for which the recipe is given below. It does not stick to the hands and a child can easily shape it.

During the season when you are hanging wreaths in your windows and bright lights on your Christmas tree, don't neglect to dress up your cakes and candies too. The decorations need not be expensive or troublesome. A tiny red candle stuck in each frosted cup cake and lighted just before you bring it from the

kitchen will delight the children. Serve these Christmas cup cakes after the tree is decorated Christmas Eve or at supper Christmas night. If you wish you can add green coloring to a small amount of white icing and, with a toothpick, make holly leaves on your cakes. Tiny red cinnamon candies will serve as holly berries. Cut your rolled cookies in fancy shapes. A pattern can be cut from thin cardboard to be used with a sharp, thin bladed knife. Stars, bells and Christmas trees are fairly simple and quite effective. Colored sugar, cinnamon candies, cocoanut, and the little "decorettes" on sale in grocery stores can be used on these cookies. Colored cellophane is perfect for wrapping lollipops and for fruit breads which are to be used as gifts. This paper will keep the product fresh and appetizing. Tie the package with narrow ribbon and stick in a small piece of pine or a spray of holly. And so a Merry Christmas, full of fragrant memories for those who share it with you!

Three Layer Candy.

- 1 cup dried figs and pitted dates
mixed
- 1/3 cup walnut meats
- 2 tablespoons honey
- 1 cup dried apricots
- 1/3 cup blanched almonds
- 2 tablespoons honey
- 1/2 cup cocoanut
- 2 tablespoons honey

Grind figs, dates and walnuts in food chopper. Add honey and press in thin layer in pan which has been lined with waxed paper and buttered lightly. Pat cocoanut moistened with honey over first mixture. Grind apricots and almonds. Add honey and press firmly over other layers. Store in cool

place for several days. When ready to use divide candy into two equal parts. Press these firmly together with apricot sides touching. This makes a very attractive candy when sliced.

Lollypops.

Use the ingredients given above. Combine all and mix well. Shape with the hands into lollypops. Meat skewers may be used for the sticks. Wrap in cellophane or waxed paper.

Uncooked Chocolate Candy.

- 1 square (1 oz.) baking chocolate
- 1 tablespoon butter
- 4 tablespoons honey
- 2 cups confectioner's sugar
- Nuts and cocoanut to garnish

Melt chocolate, butter and honey together over hot water. Add sugar and mix well. Work with the hands to get the last of the sugar thoroughly combined. Shape into balls, rolls, or other forms which may be garnished with nuts or cocoanut.

Honey Fudge.

- 2 cups white sugar
- 1/3 cup honey
- 2 squares (2 oz.) baking chocolate
- 2/3 cup milk
- 2 tablespoons butter
- 1/2 cup chopped nut meats or cocoanut
- 1 teaspoon vanilla

Mix sugar, honey, milk and chocolate. Cook over slow fire, stirring constantly until chocolate is melted and all sugar is dissolved. Cook without stirring until it reaches 238° F. (soft ball stage). Cool, add butter and vanilla and beat until creamy. Add nuts or cocoanut. Mix well and pour into buttered pan.

Rolled Cookies.

- 1/2 cup shortening
- 1 cup honey
- 2 teaspoons soda
- 1/3 teaspoon each cinnamon, cloves, allspice
- 3 1/2-4 cups flour

Bring shortening and honey to a boil. Cool. Sift flour, spices and soda together and add to honey and shortening. Chill, and if possible keep in a cool place a day or two before rolling them and cutting. Bake in a moderate oven 10-15 minutes.

Scotch Date Squares.

Cookie dough.

- 1 cup flour
- 1 cup oatmeal
- 1/3 cup shortening
- 1/3 cup honey
- 1 teaspoon soda
- 1/4 teaspoon each cinnamon and cloves
- 1/2 teaspoon salt

Mix and sift flour, soda, spices and salt. Add oatmeal and work in shortening with fork. Stir in honey. Roll 1/2 of dough and press into bottom of greased baking pan. Spread date filling over it and carefully pat into place the remaining dough which has been rolled to fit. Bake in moderate oven. Cut in squares while warm.

Filling.

- 1 cup pitted dates, cut in halves or thirds
- 1/4 cup water
- 3 tablespoons honey

Cook dates slowly with water until consistency of marmalade. Remove from heat and add honey.

Date Nut Bread.

- 1 cup dates, diced
- 1 teaspoon soda
- 1/4 cup hot water
- 1 egg
- 1/2 cup honey
- 1/2 teaspoon salt
- 2 cups flour
- 1 teaspoon baking powder
- 1 teaspoon vanilla
- 2 tablespoons melted butter
- 1/3 cup chopped nuts

Mix dates, soda and hot water. Cool, then add beaten egg and honey. Mix and sift flour, baking powder and salt and add to first mixture. Stir in the vanilla, melted butter and chopped nuts. Bake about an hour in a moderate oven.

Honey Chocolate Cup Cakes.

- 1/2 cup shortening
- 1/2 cup sugar
- 1/2 cup honey
- 2 eggs
- 2 1/2 squares (2 1/2 oz.) baking chocolate
- 1-2/3 cups general purpose flour
- 1 teaspoon soda
- 1/2 teaspoon salt
- 1/2 cup sour milk

Cream shortening, add sugar and cream well. Add honey, continuing to cream. Mix in melted chocolate and well beaten eggs. Sift dry ingredients together and add to creamed mixture alternately with milk. Bake in well greased muffin tins in a moderate oven.

—ABJ—

Here Is a Brand New Bee

By William Howard,
Illinois.

Well boys, at last we have a brand new bee. Here is a clipping from the Human Side of the News by Edwin C. Hill in which he says, "Very few of the 19,000 species of insects are social, the vast majority being solitary. Among the solitary class we find only males and females, as in the human species. But the social insects have a third class, the neuters, or imperfect females. These are the workers, and in a bee colony one finds one queen, 2,000 drones or males, and as many as 100,000 workers. It is the workers who build and control the hive.

"How is a colony formed? The queenbee, having left the nest in early autumn, hibernates through the winter and in the spring finds a nest and proceeds to rear her brood. When the eggs are hatched, a matter of a few days, she has not sufficient food or does not feed the grubs sufficiently. This undernourishment makes the imperfect females, the neuters. They

remain with the queen, gathering pollen and building a colony.

"The house of wax is at the height of its activity in mid-summer. The queen lays 1,200 eggs a day and the neuters work themselves to death in gathering food and building cells for the eggs. A worker lives but six or seven weeks. There can be only one queen to a hive, and when a new one arrives the old queen goes away. For the second swarm, however, the queen stays and a virgin queen goes.

"The amount of food regulates life in the 12,000 cells. If it is scarce, the queen's rations are cut to check the size of the brood. If it gets very low, the drones are killed off by the workers. The queen controls the sex of the eggs, laying worker and drone eggs in cells designed for them. For the production of a queen, there is a special large cell resembling an acorn. And the production of a queen instead of a worker is the matter of special feeding during the larval stage.

"What's the explanation? We have to ask the same nature which by order of its secret laws prevents this world of ours being laid waste by insects. For the present, we might be thankful to Senator Glass, without whose intervention we might have added to our many follies the one of having attempted to control the birth control on the part of its most advanced exponent, the bee."

I am sure you will agree with me that Mr. Hill proposes a brand new bee. When Mr. Hill compared our bees with the politicians, I believe he fumbled the job. In my thirty-one years with bees, this kind of a bee is sure new to me.

I believe Mr. Hill should get some book learnin' about honeybees before he sends out a story in a newspaper for people to read.

I wonder what Mr. Hill would have to say about this.

—ABJ—

Morocco Honey Frosting

- 2 egg whites, unbeaten
- 1 1/4 cups granulated sugar
- 1/2 cup brown sugar, firmly packed
- 4 tablespoons water
- 1 tablespoon honey
- 1 square chocolate, melted

Put egg whites, sugars, honey and water in upper part of double boiler. Beat with rotary egg beater until thoroughly mixed. Place over rapidly boiling water, beat constantly with rotary egg beater, and cook seven minutes, or until frosting will stand in peaks. Remove from fire, fold in chocolate carefully but thoroughly and spread on cake.

This makes a lovely shiny icing of just the right texture. Hard enough on the outside to be firm yet it does not crack and fall off upon being cut. Underneath it remains creamy and soft, due to its honey content.

Mrs. Benj. Nielsen,
Nebraska.



Out by the open fire.

On a balmy day last spring I was sitting on my front porch enviously watching tourists go by. Why did some people have all the luck I wondered. For years I've wished that I might take my family to the remote backwoods of the Ozarks and spend our vacation. But as Aunt Nancy says, "A wish bone ain't much good without a little bit o' back bone," and I evidently hadn't any for I couldn't seem to put our vacation through. We keep bees for our living (or in justice to the bees I should say they keep us) and any beekeeper will tell you that a beekeeper must stay on the job for one can't leave their bees with their neighbors like they can the canary, so I had a bright idea (hubby says I'm always having 'em). Why not take the bees with us? I broached the subject to friend Hubby. He was a bit dubious at first but when a mother has three healthy youngsters as allies what can a mere man do?

That night we argued pro and con with the result that the following

Vagabond Beekeepers

By Myrtle Cahow Agee,
Missouri.

Gosh, I'll bet it WAS fun, too! We can't all vagabond but we all want to. Beekeeping offers a chance to many to get away from the usual into a land of romance.

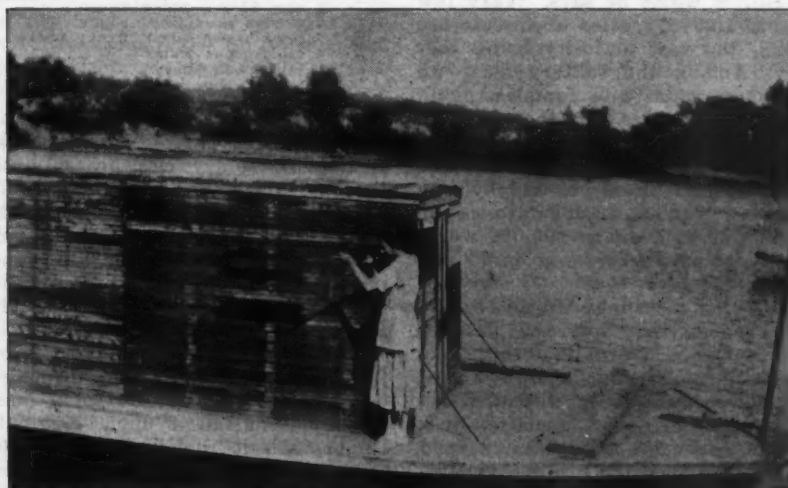
morning found the boss hunting a trailer to haul our bees to the land of enchantment. A kind friend offered us the use of his trailer and then the excitement and preparation for the trip. Young son had to have an air rifle for there were sure to be bears and wild animals to shoot. The littlest one had to pack her baby's things for a vacation without dolly was unthinkable, while the 15-year-old daughter took a choice selection of books to read on rainy days or when one was too lazy to fish or hike. At last we had screen wire securely tacked on the beehives, our camping equipment in place, plenty of fishing paraphernalia stowed away and we were on our way before the break of day.

Never have I seen a lovelier sunrise, never had the air seemed so pure and sweet. At last we reached our destination. "Somewhere in the heart of the Ozarks." We pitched our camp beside a crystal clear stream. The first night we slept in the open on the breast of Old Mother Nature.

The silver stream rippled a lullaby while from far off down the valley came the Erie laugh of a hoot owl which made the littlest one snuggle up closer to me. In due time the bees were released from their hives and the way they rushed to and fro made me think they too were enjoying the vacation. One evening young son came in triumphant—he had followed the sound of a cow bell 'til it had led him to a farm house where he had made arrangements to get sweet cream for the luscious wild strawberries which were ours for the picking. Later in the season there were wild raspberries, blackberries and dewberries which were made into delicious cobblers and eaten with thick Ozark cream. Our food kept marvelously in a cave from whence icy cold water trickled. The man of the house brought in the bacon which of course had to be scaled. Later in the season the 15-year-old daughter took fancy comb honey to nearby villages and farm homes and readily disposed of it for cash or produce. (It's surprising how few farmers keep bees).

Many a square of honey went in exchange for frying chickens, home baked bread, butter, cottage cheese, etc. While in the meantime my daughter made some lovely and (I hope) lasting friends among the friendly Ozarkians who called her "Honey girl." Most every day found us fishing or hiking. The whole family took on a nut brown color and had it not been for Hubby and the children's blue eyes and blond hair we might have been mistaken for a band of roving Indians so thoroughly did we revert to Old Mother Nature.

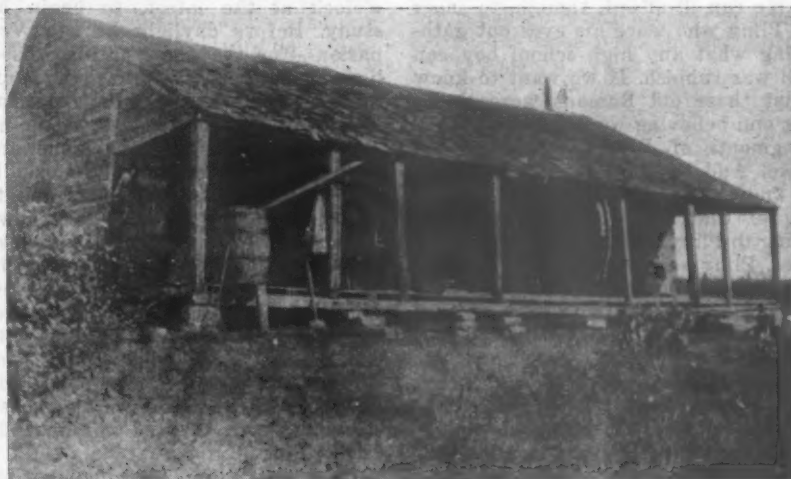
Our vacation was not only inexpensive and delightful, but was remunerative as well, for we produced more honey that season than we had ever produced in one season before. We gladly exchanged honey for win-



A crack shot at a marauder. Mother tries her hand.



Is this a boat load? (Are you all good swimmers?) Pop always brought home the bacon (which, of course, we had to scale).



An Ozark house for the Agee family. It brought health and tan and sun. The primitive is always fun if you "don't have to be that way."

ter vegetables, apples, bacon and buckwheat flour to make our own buckwheat cakes for the winter. We arranged with a farmer to keep our bees through the winter. It was with reluctance that we gave up our care-free life and went back to civiliza-

tion and the routine business of keeping house, going to school, etc. But patience has its reward for there is hustle and bustle in our household today and in a short time the Agee family will again be Vagabond Beekeepers.

—ABJ—

Honey Displays in Vacant Windows

By Emory Ward,
Missouri.

A BEEKEEPER living near a mid-western town was impressed recently by the great number of vacant stores that lined the main

streets of the business district, their dirty, dust-laden display windows standing out in stark ugliness against the more attractive windows of the

occupied shops adjacent. The sight of the empty, dust filled windows was far from attractive, the beekeeper realized, and it created an unfavorable impression not merely of the stores alone, but of the entire business district as well.

With a surplus of honey already on his hand, and with a new honey-flow approaching its height, the alert beekeeper immediately saw in these deserted store fronts a new way to successfully promote his honey sales and to reduce his surplus. Visiting the owners of the empty stores located in the town's more favorable and suitable points, he proposed to keep the windows clean and attractive if the owners, in turn, would allow him the free use of the windows to display his honey.

The store owners, realizing that their bleak, dirt-filled windows in their present condition were doing nothing to encourage prospective tenants to rent the buildings, saw in the beekeeper's proposition a unique way of maintaining the attractiveness of the windows at no cost. Consequently, the majority of the owners readily gave their consent to the plan.

After securing the permission of the owners for the use of the windows, the beekeeper turned to a score of the town's larger and better grocery stores and requested them to stock his honey. The sample of his honey product which he presented the manager immediately won favor, and when the beekeeper outlined his proposed promotional plan to increase the sale of his honey, the grocers immediately realized the selling power of the idea and agreed to stock the product.

With a sufficient number of grocers in various parts of the town promising to carry his private brand of honey, the beekeeper began at once to arrange attractive honey exhibits in the windows which he had received permission to use. The fronts were first given a thorough cleaning, and then a decorative honey display was arranged, stressing the unexcelled purity and the remarkable health qualities of the product.

Supplementing the display of extracted and comb honey, the beekeeper included numerous placards or posters further boosting the cause of honey, and including the names of the near-by grocers who handled the beekeeper's specific brand.

The eventual results of the enterprise developed a continued demand for the beekeeper's private brand of honey; it created additional business for the grocers who handled the brand; it aided the real estate agents and building owners in renting their empty buildings; and more essentially, it demonstrated that wherever the beekeeper may look there are new, unopened markets for honey.

Lives of Famous Beekeepers

By Kent L. Pellett,
Iowa.



PLINY THE ELDER—23-79 A. D.

(Of the Romans) the elder Pliny most nearly deserves to be called a man of science.—Larned World History.

THE excellence of honey proves it comes from the sky, said old Pliny, the Roman naturalist. Pliny said if one went out of doors early on a spring morning, falling honey would smear his clothes and oil his hair.

The Roman encyclopedia-maker was not certain whether honey was the sweat of the sky, the saliva of the stars, or merely a juice made by the air as it cleared itself. But he did know it became slightly contaminated by the breath of the earth, the leaves and grass on which it fell, and by contact with the stomachs of bees where it became mixed with flower juice, before human beings get it into their mouths.

These people of Italy at the time of Christ were great builders. Our architects still go among their ruined cities to find inspiration for buildings. Their roads yet wind about Europe and put to shame our hard surfaced highways that begin to crumble under turning wheels almost as they are laid.

As farmers they were careful and thorough. In many ways these farmers of twenty centuries ago would not have to bow to us at all. The way they mothered their land and cherished its fertility should be a revelation to the race of land-leeches that has grown up in this country.

In science, though, they were lost. They had no men who observed, investigated, experimented and classified their knowledge. They added very little to the sum total of what the world knows. They had nobody who could be called a scientist. But they had old Pliny.

Pliny probably never had an original thought, nor is it likely he ever gleaned a truth not already ferreted out by somebody else, for he kept his nose in books. Yet he worked as hard at his books as others worked on the roads. Many thousands of books read the great scholar Pliny, and out of this mountain of labor he compiled 160 books of his own, his encyclopedia. Here he gathered together most of what the Ro-

mans knew and much more of what they thought they knew.

He wrote pretty stories as often as facts. He did not consider so much whether a thing were true as that somebody had said it. Not much of a scientist for us, for we will not believe a thing we read or see, if we can help it.

We can ill afford, though, to sneer at Pliny who wore his eyes out gathering what any high school boy can tell was rubbish. If we want to know what those old Romans were thinking and believing we must go to those fragments of Pliny's work we still have. And the beekeeper who wants to know about the bees and beekeeping of that same day finds himself going to Pliny, who wrote much about bees. Pliny added little to the world's knowledge, but he kept a great deal of that knowledge from being lost.

Gaius Plinius Secundus was born twenty-three years after Christ at the family estate in Como. A rich young man, he went to Rome and obtained the best education. Then like most of the leading young Romans, he entered the army. He may have been a good soldier. But he began to take notes and began his history of the Germanic wars which he completed when the wars were over. Then he followed the Roman trail of blood in the conquest of the Jews and the Spaniards.

Back in Rome, he began the practice of law. But Pliny was a poor lawyer. Then he became an augur, whose business it was to foretell the future, which he did by feeding the sacred chickens and watching their actions or watching the flight of birds in the sky, noting their direction. The augur had great power in the way he predicted events, for no public undertaking could be started without consulting him. By the time of Pliny the people no longer believed much of what he augur told them, but they had not troubled to get rid of his office. Pliny later became governor of Spain and remained in that land until Emperor Nero stabbed himself and thus rid Rome of a rascal. Then Pliny went to Rome, for

the new emperor, Vespasian, favored scholars and was a close friend of Pliny. However, Pliny lost no time basking in the sunshine of the court. He threw himself headlong into the work on his encyclopedia.

Fat and asthmatic, he was a very wakeful man, losing little time in sleep. He got up at midnight, or one o'clock at the latest, to begin his study. Before daylight he saw Vespasian—for the emperor also disbelieved in wasting the late night hours in bed—and did the jobs Vespasian had given him for the day. After his work was done he went home and took up his study again. He usually had two servants with him, one to read to him, the other to take down his notes. Never a moment was lost. The two followed him even to his bath, where as he was rubbed and dried he either listened to the reading or dictated. And books went with him to the table where there was reading throughout the meal. He scolded his nephew for walking when he might ride, for he could study when riding.

Thus lived Pliny. He completed his "Natural History" which ran to thirty-seven books, when he was fifty-four.

If one happens to take time from the hectic treadmill of making a living to spend a few minutes with the wise old men whose words are covered with dust he is surprised at two things. The first is how many things they did not know that seem obvious to us. The second is how many things they did know that we thought had just been discovered. Quite often, when a truth is discovered, one can thumb back through the pages of ten or twenty centuries and find it written down by some forgotten scribe.

Pliny, for instance, knew that bees did not damage fruit, a point of contention between beekeepers and fruit growers until recently. He observed that bees preferred destroying queen cells to destroying queens, although he called them rulers, and said that a bee did not perish from stinging unless a part of its intestines was removed with the sting.

Pliny had a good system of judging honey, only going wrong on heather honey, which he complained was full of sand. And he described in detail migratory beekeeping practiced in his time at Hostilia, a village on the Po river. He knew of observation hives, made of transparent material.

But if Pliny imbibed some truth from the books he read, he gobbled up the fancies even more greedily. A bee if caught out from its hive at night, he said, will lie down on its back to protect its wings from dew. In a wind bees might carry small stones as ballast to keep them from being blown off their courses. And he described a sort of reveille blown by one bee "as from a trumpet" every morning to rouse the others, and a taps blown the same way at night to put them to sleep.

He thought the color of pollen was controlled by the wind, that the southwest wind made it black and the north wind turned it red. He said bees were related to oxen, and for that reason cow dung could be used without harm to fumigate bees while driving out spiders, moths and worms. He thought drones were produced from the last and smallest cells, the imperfect children of worn-out parents, born to be the slaves of other bees that drove them to work and punished them pitilessly.

Pliny told his readers that they could get their bees to come straight home by sprinkling over them dust from a serpent's track, and that they could ward off stings by carrying woodpecker's beaks in their pockets. These last ideas sound very much like the charms that all little boys like to try. It would be too bad to rid the world of all superstition.

Of such marvels there was no end in Pliny's encyclopedia. They popped up on every page, for Pliny was inclined to believe all he read.

But perhaps we should be wary of calling him a fool for the trash he gathered. After all there is no reason why Pliny should have known the true from the false. There is nothing in man's reason to enable him often to distinguish. What in all of Pliny could be more incredible than the theory of parthenogenesis and the sexlessness of most bees? Yet there seems to be good basis for its acceptance today. Pliny did not have behind him the many years of careful observation we have. Nobody had even suggested there was anything to be learned by observation.

Yet Pliny had the makings of a scientist. He showed this at the time of his death. He lived only two years after his *Natural History* was completed. He went to Misenum where he commanded the Roman fleet. There on the 24th of August in the year 79 he observed the eruption of Mt. Vesuvius. The green-clad mountain had been the most picturesque

feature of the country of Campania, but suddenly it sent forth a blast of flame, stone and ashes that spread destruction far and wide. For many miles the earth was covered with the gloom of night as lava was poured on the towns below, and buildings were shaken down on their luckless inhabitants by the convulsions of the earth.

Pliny, instead of running away from the terror of the mountain, wanted to know the cause of the phenomenon, ordered his boat put about in the direction of Vesuvius. He soon met distressed fugitives and learned of the calamity. He helped them escape. Then he went to Retina, directly under the shower of death coming from Vesuvius. Pliny soon had enough of the falling cinders, pumice stone and rock. He put out to Stabiae, at a little greater distance, where he took a meal with a friend and went to bed. But suddenly fire burst from every part of Vesuvius. A black and dreadful cloud issued over the land. The deadly sulphureous stench choked the old naturalist to death before he could escape.—("Beekeeping in Antiquity" by H. Malcolm Fraser.)

The Cost of a Job

Recently published figures show that in the Ford Motor shops it costs from \$5,000 to \$6,000 to provide work for the average employee. The same figure would apply to other large manufacturing concerns as well as to railroads. It applies also to beekeeping where a man provides his own job. This estimate is based on an outfit comprising 400 to 500 colonies of bees with the necessary equipment, buildings and rolling stock, which would provide full-time work for one man. Ten dollars per hive average is about the minimum investment for which this outfit could be acquired, and from that up to \$15.00 which in a general way is about the maximum on which it would pay interest and depreciation. Whether such a job would pay more or less than a job in the shops would depend on the man's ability and fitness for the work. One outstanding advantage for the beekeeper is that the job is his own. No one can put him out of it. He is his own boss—which is not an unmitigated blessing, but has its advantages. W. H. Hull, Virginia.

—ABJ—

30 Years of Christmas Seals

By Elizabeth Cole.

IN 1907 the first Christmas Seal sale was launched in Delaware by Miss Emily P. Bissell. She raised \$3,000 to use toward building a hospital for children ill with tuberculosis. Much has been accomplished since then and here in brief form are several important links in the nation-wide chain of tuberculosis control that Christmas Seal funds have helped to build.

The National Tuberculosis Association was founded in 1904 by a group of distinguished tuberculosis specialists and interested laymen. Its aim was to study tuberculosis in all its forms and to disseminate knowledge on its causes, treatment, and prevention. From the first then the campaign to fight tuberculosis, at that time the leading cause of death, was educational. To stimulate the public in a desire to secure better health machinery was the object and in only very few instances have Christmas Seal funds ever been used for relief work.

The sixth International Congress on Tuberculosis was held in Washington, D. C., in 1908. This meeting, at which world-famous scientists were present, gave impetus to the whole tuberculosis movement in our country. During the next ten years tuberculosis associations were formed in practically every state and there are now 1981 associations affiliated with

the National Tuberculosis Association.

In the belief that better health protection for children would result in better health for all communities as a whole, attention was directed toward the establishment of such media as fresh air schools, preventoria, and toward encouraging early training in the ways of health. Providence, Rhode Island, opened the first fresh air school in 1908 and in 1909 the first tuberculosis preventorium was established for New York City children at Farmingdale, New Jersey. Other states followed suit and today there are 173 institutions with provision for children who need preventorium care.

New York, as early as 1909, passed a state law authorizing the building of county tuberculosis hospitals. In 1918 an act in Washington authorized counties in that state to erect sanatoria for the care of its tuberculous and inspired other neighboring states in the Pacific Northwest to undertake organized tuberculosis work. Today there are almost 200 county tuberculosis sanatoria, besides more than 1000 other federal, state, city and privately owned institutions providing special care for tuberculosis patients.

A study of tuberculosis in rural

areas made by Wisconsin in 1911 revealed that tuberculosis was as prevalent in the country as in the city. This was an unexpected discovery and awakened other states to the need for searching out tuberculosis in their more isolated districts. Michigan was among them and, following a state-wide survey, was first to use a new type of clinic. It was called the "traveling clinic." The itinerant clinics became popular in other states, and were the means of uncovering many cases of tuberculosis. At permanent tuberculosis dispensaries and clinics patients today not only are treated but they are taught how to get well. These are functioning to the extent of about 1000.

At Framingham, Massachusetts, a unique health demonstration was established in 1916 to show that with the cooperation of physicians and citizens it was possible to control tuberculosis. At the end of the seven-year demonstration the death rate had dropped to 38 per 100,000 population from 121 during the predemonstration decade. Statistical data of untold value were assembled through this study and the work carried on in Framingham has resulted in similar demonstrations in other communities.

The study of tuberculosis in industry has been another important link in the chain that Christmas Seals have helped to finance. In an effort to emphasize health as a factor in industry the Chicago Tuberculosis Institute in 1911 started a campaign to detect tuberculosis among industrial workers. Other studies on this subject include one in Vermont among granite cutters, completed in 1921. It was found that certain dusty trades are dangerous and many measures have now been taken to protect these workers against tuberculosis. A recent contribution has been a study of death rates by occupation to focus attention on the trades in which the tuberculosis hazard is greatest.

In order to carry out one of the aims of the National Tuberculosis Association, namely, the study of tuberculosis, in 1920 a Committee on Medical Research was organized. Because it was financially prohibitive to found a special laboratory for tuberculosis research, the Committee organized and coordinated work of individuals and groups and enlisted the cooperation of various university laboratories with their highly trained personnel. These men and women are working diligently to add to our knowledge about the disease and hope that some day a specific cure may be discovered.

Social research too has been carried on and the findings of various studies have helped to bring to light the relationship of such factors as age, sex, nationality and occupation to tuberculosis.

In the spring of 1928 the first Early Diagnosis Campaign was held. This country-wide educational campaign conducted each spring for nine years, has for its objective the detection of tuberculosis in its early forms. These campaigns have encouraged the use of the tuberculin test and the X-ray among school children and have been instrumental in finding early cases of tuberculosis when treatment could be given in time to save many lives. In Massachusetts ten-year program was started in 1924 by the State Department of Health for the detection of tuberculosis among school children, the most extensive project of this kind ever undertaken.

And after recovery—what? That is another problem tuberculosis associations are working on. In New York City back in 1913 the first workshop for arrested cases of tuberculosis was opened. At the Altro Work Shop men and women are successfully engaged in garment making. To prepare tuberculosis to return to work many sanatoria conduct classes for study and well rounded programs of rehabilitation have been worked out in many parts of the country.

Utopia may be a long way off, but Dr. Thomas Parran, Jr., Surgeon General of the United States recently said, "Tuberculosis can be wiped out in our nation."

Why not work optimistically toward that goal? In 1907 when the first Christmas Seals were sold 179 persons out of every 100,000 population were dying from tuberculosis; now less than 60 per 100,000 are dying. Certainly the links in the nationwide chain of tuberculosis control that have helped to save these lives must not be allowed to weaken. Other links must be added. Let us hope that before the next thirty years have passed, the chain will be so strengthened that the new generation will see Dr. Parran's prophecy come true.

—ABJ—

Demonstration Opportunities

By Ivan Whiting,
Illinois.

Selling honey by demonstration of it uses in cooking has long been part of my plan, but circumstances here prevented its use. The American Honey Institute and others have developed many fine honey recipes. The women in the household of the progressive beekeeper should now know how to cook with honey. Isn't it logical and appropriate for them to show their neighbors and friends how to use honey? If honey is the best sweet to use in cooking, isn't show-

ing others how to use it conferring a favor upon them? I believe there is a real opportunity for the ladies, individually or organized into an auxiliary to demonstrate cooking with honey. Most people work better with others than alone. In the demonstration team there is a sharing of responsibilities, a division of labor, and a social atmosphere lacking in individual work. But if an individual has the knowledge of cooking, the ability to demonstrate it, and the initiative, I see no reason to wait for organization to create a demand for the honey produced at home.

Begin by inviting in the neighbors. Then enlarge the circle, demonstrate to women's clubs, church societies, granges, parent-teacher's associations, fairs, etc. Several demonstrations can be made before the same group. Recipes used should be given out.

I believe thoroughly in the demonstration because it is the best teaching device for motor action. We learn to do mostly by repeating some process we have seen done. Fewer succeed from directions only. If the finished product pleases us, we have a desire for it. The demonstration and the recipe make the process clear and the article is easily made. A mere recipe, or a collection of recipes, if saved, would probably be filed away to be forgotten until some circumstance created an impelling desire, if ever. Let the demonstration accompany the recipe until the person becomes "honey conscious." Then there will be a demand for recipes, such as "A Hundred Honey Helpings," which can be purchased by the beekeeper and given with sizable honey orders. Let us hope that honey can be so popularized that the production in settled communities will be challenged to supply local demands. And let's not forget that the auxiliary and the demonstrators should be paid by the producers.

Although it is necessary to acquire experience in cooking and in demonstrating, there is danger in an organization of over-emphasizing the experience. Americans are competitive minded, always seeking to make things "bigger and better." Prize contests are necessary as stimulants to achievement and of publicity value, but most of us do not have the distinction of living on prize cooking. Utility is more important than perfection.

—ABJ—

Where Are Small Beekeepers?

The number of small beekeepers (back letters) has diminished the last seven years so there is only about one where there formerly were fifty. Due to drought, extreme cold, foul-brood, low prices, novelty ran out as the sting went in.

A. G. Pastian,
South Dakota.



Empire State, December 4 and 5.

The Empire State Honey Producers' Association will hold its winter meeting December 4 and 5 at Syracuse, New York. Headquarters of the association will be the Onondago Hotel. An interesting program has been planned for the two-day meeting and beekeepers are invited to attend.

E. T. Cary,
Secretary.

Annual Virginia Meet.

The Virginia State Beekeepers' Association will hold their annual business meeting Thursday, December 10, 10:00 a. m. to 4:00 p. m., Chamber of Commerce assembly room, Lynchburg.

An interesting program is being arranged and it is hoped that some beekeepers drifting back from Texas can plan to be with us. A cordial invitation is extended to all beekeepers in the state whether they be members or not. We always welcome visiting men from other states. Anyone desiring announcements or information placed before this organization should correspond with the secretary.

W. A. Caldwell, Secretary,
Galts Mill, Virginia.

Washington, December 8 and 9.

The Washington state beekeepers will hold their 32nd annual convention in the winter school building of the Western Washington Experiment Station located one mile west of Puyallup, Washington, on December 8 and 9. Prof. Kelty, of Michigan, will be guest speaker, representing the American Honey Institute, and will give an address on Commercial Beekeeping. A draft of the revised laws regulating apiaries will come before the convention for its approval, preparatory to having it introduced into the legislature that convenes in Olympia next January.

Rev. M. F. Mommsen, Secretary,
Tacoma, Washington.

Utah State Meeting, December 14 and 15.

The Utah State Beekeepers' Association will hold its annual convention at the Hotel Newhouse in Salt Lake City, Utah, December 14 and 15.

The entire program has not as yet been formulated. However, Prof. R. H. Kelty, President of the American Honey Institute, will speak on the work of the Institute and also on

practices of foulbrood control. We have also asked for the services of Dr. A. P. Sturtevant, of the Inter-mountain Bee Culture Field Laboratory at Laramie, Wyoming. There will also be several other speakers on the program.

Leslie H. Walling,
Secretary.

California Convention, San Bernardino, December 2 - 4.

Carry Hartman's breezy "Betimes" places the annual state convention at San Bernardino, December 2, 3, and 4. Come and contribute. Says Cary, "In the days that are gone we had to beg beekeepers to join the Association because we needed them; now we invite them because they need us." Remember the dates.

New Officers in Alberta.

R. H. Hawthorne of Taber, Alberta, has been elected president of the Alberta Beekeepers' Association. Elmer Morgan of Brooks was appointed vice-president, while S. O. Hillerud, provincial apiarist, was selected as secretary.

Members of the executive meeting at Edmonton, Alberta, recently decided to hold next year's annual convention in Calgary.

F. H. Fullerton,
Washington.

Quality Program Theme Wisconsin Beekeepers' State Convo.

If you are a good natured beekeeper, listen to what Pro. F. B. Paddock, Iowa state apiarist, asserted at the annual convention of the Wisconsin Beekeepers' Association at Fond du Lac, October 30.

"Beekeepers are so good natured," Prof. Paddock reflected, "that you'd think they were running an asylum for old queens the way they hesitate about snapping off the head of a worthless and indifferent queen. They just wait, hoping lightning will strike them."

What Prof. Paddock was getting at, of course, was simply this: "Pay more attention to quality. Improve your stock. Are you satisfied with the queens you are getting?"

"Do something about stock breeding," he declared. "Shop around, study the market."

With Prof. Paddock on the program was Dr. O. W. Park, associate research professor at the Iowa Agricultural Experiment Station at Ames,

who discussed, and illustrated with slides, progress in disease resistance experiments. Readers of the American Bee Journal will recall the timely article on that subject in the magazine in January.

Among the Wisconsin beekeepers who participated in the convention program was Leonard Otto, Forest Junction, who contended that "market conditions of honey are in a deplorable condition."

Beekeepers are discovering that 1894 prices are back again, Otto revealed. "Beekeepers are in a depression, the drought cut production, honey as well as other agricultural products suffered, yet prices stay down."

"Only two loopholes are possible," Otto acknowledged. "Either we must have higher prices or have fewer beekeepers."

New officers of the Wisconsin organization are— Arthur J. Schultz, Ripon, president; and Walter Diehnelt, Menomonee Falls, vice-president. Re-elected to office were H. J. Rahmlow, Madison, corresponding secretary; and Mrs. Millie Francis, West Allis, recording secretary-treasurer.

The Wisconsin Association went on record favoring a statewide program of foulbrood disease control, and lauded efforts of the state department of agriculture and markets for their efforts in promoting eradication work.

Everett M. Melvin,
Wisconsin.

Puyallup Meeting, December 9 - 10.

Yakima valley beekeepers are preparing to attend the annual meeting of the state association, which is to be held in Puyallup this year on December 9 and 10. I. L. Neill.

The Iowa Meeting.

Iowa beekeepers celebrated the 25th anniversary of the founding of the society at a convention held at Ames, November 11, 12 and 13. The sessions were held at the same time as those of affiliated organizations of fruit growers, florists, vegetable growers and garden clubs.

Only three persons who attended the first convention at Des Moines were present on the 25th anniversary. They were M. G. Dadant, J. W. Stine and Frank C. Pellett. The history of the society was featured at the first afternoon session.

Speakers from outside the state were M. G. Dadant, who talked on "Trends in Beekeeping"; Miss Mercedes Cranston, who represented the American Honey Institute, and Dr. C. L. Farrar, of Laramie, Wyoming. Dr. Farrar offered some decidedly new and fresh material in his talks on "Influence of Pollen on Colony Development," "Management of Two Queen Colonies" and "Package Bees."

The Women's Auxiliary held a



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1 1/2 oz. (individual service) to 3 pounds.



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separate session for consideration of things of special interest to the housewife with about 28 women present.

The luncheons and the joint banquet which brought together members of all the affiliated groups were happy occasions which served to widen the acquaintance of visiting members.

John Johnson is the newly elected president, N. I. Lyle, vice-president; F. B. Paddock, secretary-treasurer.

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Bronx (N. Y.) Beekeepers Meet December 13.

The December meeting of the Bronx Beekeepers' Association will be held at the home of Mr. Semich, 2242 Givan Street, Bronx, N. Y., on Sunday afternoon, 2:30 p. m., December 13, 1936.

The government motion picture "How Bees Live and Work" will be shown, as well as the action pictures taken by Dr. Louis Wolfanger, of Columbia University, at our annual picnic in Rockland County at the apiary of Frank Knaack. Come and see yourself in action.

We will celebrate Christmas with a Santa Claus bag for every one. Please bring a package. It should not cost more than ten cents. Drop your package in a bag as you come in. Be sure to get a ticket with duplicate number. No one will know what you brought and no one will get their own package back.

Our meeting at Kroger's in November will long be remembered. We had an agreeable surprise in the visit of Mr. Howk, ex-president of the New Jersey State Association and Mr. John Conner, president of the Essex County Association in New Jersey, and delegation. We welcome you and hope you will visit us often. Mr. Conner invited the Bronx Association to meet with his Association at some future date. We will be over. How about it Mr. Conner—Bronx County versus Essex County in a debate on some beekeeping subject. At Kroger's the secretary read a list of prepared questions on wintering bees which were very efficiently answered by the members. We plan to carry these questionnaires right through the winter months at the meetings.

Come over to our next meeting and have your say in the confab. **Merry Christmas and Happy New Year to all.**

Long Island, Brooklyn, Westchester and New Jersey beekeepers come up and see us some time. For directions how to get to any of these meetings write to the secretary, John S. Ferguson, 150 W. 78th St., New York, N. Y.

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Report of Illinois State Beekeepers' Association Meeting.

The 45th annual convention of the Illinois State Beekeepers' Association was held at St. Nicholas Hotel, No-

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Beekeepers in this country are increasing their holdings and new beekeepers are establishing themselves along the Great Northern Railway in these states. Diversified farming and live stock are similarly favored by low cost production.

Write for Free Booklet on beekeeping and farming opportunities, including Low Homeseekers' Round Trip Excursion Rates.

E. C. LEEDY

DEPT. J., GREAT NORTHERN RAILWAY

ST. PAUL, MINNESOTA

vember 12 and 13, 1936, with President W. G. Duckwall, of Jacksonville, presiding. The treasurer's report showed the finances of the Association in good condition.

The out-of-state speakers consisted of M. J. Deyell, of Ohio, who spoke on two subjects, "What's Ahead in Beekeeping" and "Selecting Suitable Apiary Sites." H. J. Rhamlow, of Wisconsin, gave talks on "Experiences with Different Methods of Wintering" and "Methods of Swarm Control and Requeening Used by Successful Wisconsin Beekeepers." These two gentlemen were given very close attention as they brought messages from our neighboring states as to methods used there.

Prof. V. G. Milum's talk on "The How and Why of Care and Storage of Honey" was especially interesting. Dr. Milum has made extensive experiments in the heating and storing of honey at various temperatures and during different periods of time. Dr. Milum has shown that the holding of honey at high temperatures for a prolonged period gave a very decided discoloration to honey but if the same honey was brought up to a high temperature and cooled quickly very little change in color or flavor resulted. Dr. Milum's experiments are well worthwhile for the beekeeping industry and will no doubt be published in one of the bee magazines in the early future.

Mrs. Malitta Jensen of the American Honey Institute gave a very fine report as to the activities of the Institute and the reasons why beekeepers should support it. The present set-up of the Institute at Madison, Wisconsin, is such that beekeepers are receiving more for their contributions than ever before.

Mrs. Adam Bodenschatz and Mrs. Irene Duax gave reports on the work of the Illinois foundation and showed that good work had been done with Illinois honeys.

At the suggestion of Vice-President Adam Bodenschatz, it was decided to make a request for more funds for prizes at the State Fair in 1937. A resolution was also passed asking for increased funds in apiary inspection.

Chief Inspector C. L. Duax gave a very comprehensive report of the disease situation in Illinois and showed the need for greater efforts and more funds to keep bee diseases under control.

The following officers were elected for 1937: W. G. Duckwall, Jacksonville, president; Adam Bodenschatz, Lemont, vice-president; Herman Denhart, St. Joseph, vice-president; Vincent Peifer, Lincoln, vice-president; O. G. Rawson, Belleville, vice-president; Reginald Bean, Mt. Vernon, vice-president; Edwin F. Peterson, 822 Junior Ave., Kewanee, secretary; Wesley W. Osborn, Hillsboro, treasurer.

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The 1937 Season is fast approaching and we have every reason to expect a greater demand over the past season on account of the increased prices for honey and all other commodities. Hundreds of buyers in Canada and the Northwest were unable to get their bees this season because they did not order EARLY. Are you going to let that happen to you?

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REQUEEN EARLY**for less supersedure
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for strong coloniesIn 1937, Merrill Quality Queens will suit you.
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We buy wax for cash. Write for shipping tags.

OLD COMBWe render wax from old comb and do the job 100%.
Write for prices.**FOUNDATION**We work wax into highest quality comb foundation at
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Young BeesHonest weight, three-banded Italians. Be wise and book your orders early for 1937. Orders
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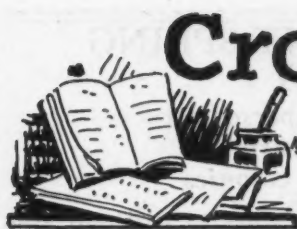
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Crop and Market Report

COMPILED BY M.G. DADANT



For our December Crop and Market page, we asked reporters to answer the following questions:

1. How is honey selling retail?
2. How much of the crop is out of producer's hands?
3. How heavy is jobbing demand?
4. What prices are being offered by the large buyers?

Honey Selling at Retail.

There has been no diminution in the demand for honey in a retail way throughout the United States. While some very few localities may report a moderate to fair sale on honey retail, most reports are that honey sales are good to excellent. The fruit crop has improved none since our last report and the small amount of inferior fruit available for immediate use has been rapidly disposed of. The weather has turned cold in most sections and as a consequence, consumers are looking toward a sweet to go with hot cakes and other cold weather foods.

Amount of Crop Sold.

The reports on the amount of honey of the present crop out of the producers' hands, are very satisfactory. In the New England states, we find practically all honey out of the hands of the producers already and New York and the coastal states report from 60 to 75 percent already in the hands of consumers. The same holds good throughout the Atlantic coast regions as far south as Texas and in fact all through the southern states extending into Louisiana and Texas. One reporter stated it would be hard to find a carload of one single variety of honey in Texas after the date his report came in.

There is somewhat more honey on hand in the central western states, particularly in southern Michigan and scattered through Indiana and Illinois.

In the plains states, however, the clean-up has been very good even in those sections of eastern North Dakota and northwestern Minnesota where the crop was so extremely good late in the season. Nebraska and Kansas and contiguous states are fairly well sold out as the crop was short there.

It is perhaps in the intermountain territory that we find a larger crop still in the hands of producers. This applies particularly to Idaho, the western slope of Colorado and some sections of Utah and Nevada. Around there the crop may run from 50 to 75 per cent already sold and a group of producers holding the balance of their honey in strong hands for somewhat more than the market will offer them at present.

Jobbing Demand.

Although there are some reports of a good to excellent jobbing demand particularly in the eastern and southeastern states, as a general rule, the jobbing demand on the part of brokers, packers and large users has dropped during the past month with perhaps a slight tendency to advance somewhat as this issue goes to press. Apparently the packers got in early for a considerable quantity of honey and are now not anxious to buy, probably having plenty to carry them over until after the holiday season at least. We do not look for a very great strengthening of the honey market although the general produce market advance would indicate that honey should also advance in sympathy.

Large Buyer Offers.

As is usually the case, there is quite a large discrepancy between the reports of what the buyers are offering in one instance and another. We can give only a suggestion of such offers as being made. Generally throughout the east states, price of 7 to 7½ cents per pound on good ex-

tracted honey and approximately \$3.25 per case for comb is a normal price.

As we go into the southeastern states, the price would be 6 cents to 7 cents for the extracted.

In Texas 5 to 6 cents for amber grades and 6 or possibly a little better for white honey is being offered. In the central western states, the producers are being offered a little less than 7 cents per pound f.o.b. their own station with some shorter offers apparent.

Michigan, Wisconsin and Minnesota, as well as the plain states, report considerable number of offers now on the basis of 6 cents to 6¼ cents f.o.b. their stations with a great many producers holding for a price of 7 cents net.

In the Rocky Mountain region, a price of 6 cents f.o.b. shipping point would be, we believe, satisfactory to a good many producers, some offers of such a price being made and some running from 5¼ to 5½ cents. There is a tendency to want a price of at least 6½ cents on the part of the intermountain group.

The extreme northwestern states have very little honey for sale outside of their own markets.

In California, the market has been somewhat hurt by the long seamen strike which means that no honey can be exported and, therefore, none is being offered.

We suggest, however, price of 5¼ cents on amber and 6¼ cents on good white honey with considerable European demand developing.

In Canada, prices are not as good as they have been in some previous years. A price of 7 cents f.o.b. shipping point for good white honey in Ontario and Quebec, as well as in the western provinces would be almost satisfactory although considerable quantities are being held for 7½ and even 8 cents per pound.

In the coastal region of British Columbia a price of 1 to 2 cents per pound more is being offered and asked.

Summary.

As to the total honey crop this year, figures cannot be changed much over our report in October except that the honey crop has developed considerably late in the season in Idaho, western slopes of Colorado, northeastern North Dakota and north and western Minnesota where the crop was unusually good and unusually heavy late in the season.

Some producers who thought they were going to have a short crop this year have been amazed at the way the bees carried in the honey in late August and into September, making a bumper crop instead of a short one. Southern Michigan has experienced similar conditions, the northern sections and northern peninsula being somewhat shorter than last year. Some sections of east central Wisconsin have likewise had a very satisfactory crop.

Throughout the balance of the country, there is very little change. In the amber fall late honey areas, very little surplus honey has been gathered although there was sufficient to build the bees up nicely and put them in excellent condition for winter with a minimum of feeding. In some sections, however, some feeding has been done.

We still hear reports of drought in western Nebraska, Kansas, and eastern Colorado and extending up into all of South Dakota and most of southern and western North Dakota. Southern Michigan seems to have had at least a normal rainfall and prospects look probably as good there as any place in the country for next year. We will, however, report on prospects in one of our future issues.

On opposite page, we give some revised recommendations of prices.

Renew Your Subscription

Write for Our Special Club Offers
AMERICAN BEE JOURNAL

Iverson Honey Company (Not Inc.)

Successor to
Edwin H. Guertin, 201 N. Wells St., Chicago
Extracted Honey bought and sold
Reference: First National Bank of Chicago.

Are You Ready for This Season?

Have you gone over your equipment? Have you plenty supplies? Advertisers in the American Bee Journal will welcome any inquiry sent to them.

SUGGESTED PRICES — F.O.B. SHIPPING POINT

	Crop Compared to 1935	Honey Selling	Offers	C/L White Extracted	C/L Amber Extracted	C/L No. 1 Comb	10-lb. Retail Extracted	5-lb. Retail Extracted	10-lb. Bulk Comb	5-lb. Bulk Comb	1-lb. Jar Retail	Comb Section	Comb - Case to Grocer	Discount to Grocer	Discount to Jobber
NEW ENGLAND	90%	Good					\$1.60	\$.90			\$.30	\$.30	\$4-5.00	25%	35%
NEW YORK	75%	Good		.08	.07	\$3.50	1.50	.90			.25	.25	4-5.00	25%	35%
NEW JERSEY, DELAWARE, MARYLAND	110%	Good					1.50	.85			.25	.25	3.75	20%	30%
WEST VIRGINIA, VIRGINIA	110%	Fine	.07				1.40	.75	\$1.50	\$.80	.25	.25	4.00	20%	30%
NORTH CAROLINA, SOUTH CAROLINA	130%	Fine					1.30	.70	1.40	.75					
GEORGIA	120%	Good	.06	.07	.05½		1.25	.65	1.45	.75	.25			20%	25%
FLORIDA	130%	Good	.06	.06½-.07	.06-.06½		1.20	.65			.25			20%	30%
ALABAMA, MISSISSIPPI	100%	Good		.07	.06-.07		1.25	.65			.20			20%	25%
KENTUCKY, TENNESSEE	40%	Fair					1.45	.65	1.50	.80	.20	.25	4.80	20%	25%
ARKANSAS, LOUISIANA	70%	Slow	.06		.05		1.20	.60	1.50	.80	.20			20%	30%
TEXAS	80%	Good		.06-.06½	.05		1.20	.65	1.20	.65	.25			20%	30%
NEW MEXICO, ARIZONA	75%	Fair	.05½	.06-.06½			1.00	.50							
PENNSYLVANIA, OHIO	Pa. 60% O. 80%	Good		.07-.07½			1.35	.75			.20	.25	4.50	20%	30%
MICHIGAN	N. 50% S. 120%	Good	.06½	.07-.07½	.06-.07		1.25	.65			.20	.20	3.75	20%	30%
WISCONSIN	90%	Good	.06	.07	.06-.07		1.20	.60			.30	.20	3.75	20%	30%
MINNESOTA	100%	Good	.06-.06½	.06½-.07	.06		1.15	.65			.20	.15	3.40	20%	30%
INDIANA	80%	Good	.06½	.07	.06		1.25	.70			.25	.25	3.75	20%	30%
ILLINOIS, IOWA, MISSOURI	65%	Fair	.06	.07	.06½		1.25	.65			.20	.20	3.25	20%	30%
NORTH DAKOTA, SOUTH DAKOTA	60%	Good	.06-.06½	.07		3.25	1.25	.65			.20	.20	3.50	20%	30%
NEBRASKA	60%	Good	.06	.07			1.25	.65			.25	.20	3.50	20%	30%
KANSAS, OKLAHOMA	50%	Fair		.07			1.30	.70			.25	.20	3.60	20%	32%
MONTANA, WYOMING, COLORADO	80%	Good	.05%	.06½-.06½	.06		1.15	.60			.15	.15	3.25	20%	30%
IDAHO	150%	Fair	.05%	.06-.06½	.06	3.25	1.00	.50			.20	.17	3.25	20%	27%
UTAH, NEVADA	120%	Good	.06	.06-.06½	.05%	3.00	1.00	.55			.20	.18	3.10	20%	26%
WASHINGTON, OREGON	120%	Good	.07	.07		3.25	1.10	.60			.20	.20	3.25	15%	25%
CALIFORNIA	50%	Good	.06-.06½	.06-.07	.05	3.00	1.00	.55			.20	.20	3.25	15%	25%
BRITISH COLUMBIA	80%	Good	.08	.10			1.50	.85			.25				
ONTARIO	80%	Good	.07	.08			1.00	.55							
SASKATCHEWAN, MANITOBA, ALBERTA	90%	Good	.07	.07½			1.00	.55							

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Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

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ITALIAN Queens. Northern bred, for Northern conditions.
Eugene Gordon, Hershey, Nebraska.

"SHE-SUITS-ME" QUEENS. See page 155 of March number. Send for circular.
Allen Latham, Norwichtown, Conn.

CAUCASIAN PACKAGE BEES. Booking orders now for 1937 delivery.
P. B. Skinner Bee Co., Greenville, Ala.

THREE-BANDED ITALIAN QUEENS 75c each, any number. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, N. C.

ORDERS FOR PACKAGE BEES are being booked fast. May we urge you to book your needs NOW.
Weaver Apiaries, Novasota, Texas.

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FOR SALE—Northern white extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

CHOICE Michigan Clover Honey. New 60's.
David Running, Fillion, Michigan.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—Well ripened clover honey, car lot or local shipments. Will be pleased to submit sample. **THE COLORADO HONEY PRODUCERS' ASSN.**, 1324 Market St., Denver, Colorado.

FOR SALE—Extracted honey in new 60's.
H. Blitz, P.O. Box 3438, Philadelphia, Pennsylvania.

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Anthony Bros. Honey Co., Apalachicola, Fla.

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HONEY FOR SALE—All kinds, any quantity.
H. & S. Honey & Wax Company, Inc., 265-267 Greenwich Street, New York.

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F. W. Summerfield, Grand Rapids, Ohio.

CHOICE WHITE CLOVER HONEY in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

NEW CROP white extracted, case or ton lots. Sample ten cents.
Harry C. Kirk, Armstrong, Iowa.

FANCY NEW CROP white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

FANCY ILLINOIS CLOVER HONEY. New 60's. Elmer Luebeck, Elwood, Illinois.

ALMOST WATER WHITE MANGROVE honey in new sixties. Also amber honey.
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WANTED—Two men for 1937 season.
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YOUR WAX WORKED into quality medium brood foundation for 15c per pound, 100 pounds \$14.00. Fred Peterson, Alden, Iowa.

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PASTE for tin or glass at 10c per gallon. Send two dimes for recipe.
Lewis Syverud, Aberdeen, South Dakota.

Automobile License Tags Saves Bees

It was a noticeable fact this spring that those of our colonies which were provided with a tunnel between the top bars and the blankets used as inner covers, went through the winter in better condition than those which were not provided with the tunnel. The tunnels were made of old auto license plates. By turning the edges of the plates at right angles to form the depth of tunnel, and placed crosswise the top bars, the tags formed excellent passageway for the bees, permitting them to work over the top bars and thereby reach fresh honey, when otherwise they would have been compelled to work around the end bars, or under the bottom bars.

Perhaps the regulation inner covers would have served better but running short of these we resorted to the auto tags with excellent results, according to present indications.

J. H. Sturdevant,
Nebraska.

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for next spring — write me.
JASPER KNIGHT, Hayneville, Alabama

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AMERICAN BEE JOURNAL
Hamilton, Illinois.

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Guilford College North Carolina

Christmas
had me up a
tree until
I thought
of this!



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It covers the "latest" in Honey Cookery and you know how much the ladies enjoy keeping up with Food Styles.

Tested recipes, nutritional references, and basic rules for the daily use of honey—you'll find them all, plus the endorsement of the American Medical Association in this book. Prices follow:

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100	4.50	5.50

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Have you sent a donation to the
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scribe to American Bee Journal?

Package Bees & Queens for 1937

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GARON BEE COMPANY, Donaldsonville, La.

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the home of Wonderful Food

Every advantage of a fine hotel is yours when you stay at Hotel Atlantic, Chicago.

450 Rooms

from \$2.00
with Bath

from \$1.50
with Bath
Privileges

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PACKAGE BEES**
In Season — Write to
THOS. C. BURLESON
COLUSA, CALIF.

SELECT UNTESTED
"St. Romain's Honey Girl"
ITALIAN QUEENS
"St. Romain's Honey Girl" Apiaries
Hamburg, Louisiana.

Package Bees & Queens
Booking Orders Now for Spring 1937
Write for prices on our big yellow honey get-
ters which are easy to handle. Seldom swarm,
and have always been free of disease. . . .
Taylor Apiaries, Luverne, Ala.

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Don't wait until you need bees to place an order.

Give us a chance to serve you promptly on the date you select, by placing your order NOW.



Proven quality queens. Overweight packages. Service that satisfies.

Prices on request. Satisfaction guaranteed.

J. G. ROSSMAN, Moultrie, Georgia

Volume LXXVI

INDEX

1936

A
Adulteration of Honey Detected by Present Method—396.
Adulterators of Honey Fined—347.
Agreement for Marketing Bees and Queens—24, 25, 69.
Agriculture in San Diego School System—497.
Airplane Dusting Poisons Bees—21.
Airplane to Texas Meeting—332.
Alabama Beekeeping News—117.
Alabama Honey Demonstration at Fair—538.
Alberta Figures—442.
All Around the Bee Yard—67, 192, 456, 556.
AMERICAN FOULBROOD—
Cartoon of—506.
Disease Prevention—21.
Disease Resistance—12.
Disease Resistance, Federal State Plans for Investigations of—501.
Driving Bees with Carbolic Acid—127.

AMERICAN HONEY INSTITUTE—
Alabama Breeders Support—15.
Alabama Honey Demonstration—538.
Business Meeting of—35.
Change in National Honey Week—181.
From Small Beginnings Come Great Things—385.
Goodman, Miss Willah, Financial Secretary—541.
Groundwork is Sound of—334.
Have You Faith in?—338.
Honey Utilization and Marketing—583.
Honor Roll—97, 153, 209, 265, 317, 369, 421.
Let's Pave the Way for a Great Industry—552.
News Notes—30, 60, 140, 173, 228, 289, 345, 441.
Our Advertising Medium—437.
Report of—172.
Why Not Use More Honey, Encouraging Others to Do Likewise—489.
Will Advertising With, Pay Dividends?—142.

American Honey Producers' League, Bulletin Board—173.
Apiary of Adam Bodenschatz—61.
Apiary of Arthur Shultz, Winter and Summer Contrast—498.
Apiary Ten Years After a Florida Hurricane—384.
Arbide, J. T. from Mexico to San Antonio—436.
Are We Ready for a New Bee?—64, 180, 433.
Arizona News Notes—281.
Arsenical Insecticides and Bee Losses—331.
Arthritis, Honey for—591.
Australasian Pepper—509.
Automobile License Tags Saves Bees—614.
B
Balsam-Wool, Two Colony Pack—492.
Barnes, Marvin, Thrives on Honey—599.
Bears Like Honey—87.
Bear Trap—296.
Bee, Are We Ready for a New One?—64, 180, 433.
Bee Breeders in California, Live Wire Association—240.

Bee, Here is a Brand New One—601.
 Bee Pasture, Possible Increase of—451.
 Bee Sting, Fear Odor Cause of—555.
 Bee Supply Dealers and Shippers List Your Name—69.
 Bee Yard of George Jacobson—333.
 Bee Yard Records—244.
 Beehive, World's Largest—505.
 Beekeeper and the New Beekeeping—126.
 Beekeeper's Business—496.
 Beekeepers, Wanted, Four Hundred in Kansas—20.
 Beekeepers, Where are the Small Ones?—606.
 Beekeeping at California University—504.
 Beekeeping, Changes in Location—81.
 Beekeeping Conditions in Virginia—114.
 Beekeeping, Does Migratory Pay?—544.
 Beekeeping, Early Migratory—127.
 Beekeeping, Four Hundred Colonies As a Side Line—237.
 Beekeeping in Pacific Northwest—446.
 Beekeeping Observations in Florida—394.
 Beekeeping of Early Chinese—451.
 Beekeeping, Some Things We Don't Understand—294.
 Bee Moth, Sulphur for—561.
 Bees and Beekeeping Equipment Across Kansas—196.
 Bees As Executioners—384.
 Bees Death of in Hot Weather—471.
 Bees, Feeding in Open Air—549.
 Bees for Defense—338.
 Bees, Grey—76.
 Bees in Movie—400.
 Bees in the City—398.
 Bees, Manpani Stingless—32.
 Bees, Mayan—556.
 Bees, Moving to Orchards Hard Work—115.
 Bees, Number in Pound—191.
 Bees, Observations on the Nature of Swarms—280.
 Bees Poisoned by Airplane Dusting—21.
 Bees Poisoned by Arsenical Insecticides—331.
 Bees Poisoned by Cotton Dusting—184, 298.
 Bees Ravaged by Blue Jays—288.
 Bees, Rules and Regulations of Importation in Michigan—73.
 Bees, Selection of Good Stock Insures Disease Resistance—581.
 Bees Store Honey in Jar—567.
 Bees Superior Qualities of Yellow Italian—358.
 Bees, to Trap, Out of a Tree—384.
 Bees, Wintering in Eight Colony Cases—71.
 Bees, Wintering in Manitoba—434.
 Bees, Wintering in Two Colony Pack with Balsam-Wool—492.
 Bees, Winter Loss of—341.
 Bees, Youngsters Not Quitting—298.
 Beeswax, New Test for—281.
 Beeswax, Tariff on—72.
 Beginner and Small Beekeeper, in Defense of—593.
 Bertrand, Edouard, Life of—132.

BIBLIOGRAPHY—

"A Cluster of Bees"—291.
 "Bee Farming in Britain"—360.
 "Further Developments Concerning Wax Production by the Honeybee Colony"—451.
 "Honey Production in the British Isles"—507.
 "Studies on European Foulbrood of Bees"—399.
 "The Busy Little Honeybee"—347.
 Big Four in the Bee Business—292.
 Birmingham Exhibit—83.
 Bixler, John M., Death of—335.
 Bodenschatz, Adam, Apiary of—61.
 Bodenschatz, Adam, Exhibit of—9.
 Bodenschatz, Mrs. Adam, Winner of Contest—122.
 Bodenschatz, Mrs. Adam, Relish and Pickle Recipes—499.
 Bottom Board Has Advantages When Deep—283.
 Bread, Honey-Soybean—343.
 Bridge Between the South and North—176.
 British Columbia Figures for Honey Production—249, 441.
 Broadcasts, Vigo Co. Indiana—125.
 Broccoli for Honey—239.
 Brood Cell, Influence of Size on Size of Worker Bee—178.
 Brood Chamber, Size of—551.
 Brood Nest Method—245.
 Brooklyn Co. Guilty of Mislabeling Honey Shipment—83.

BULLETINS—

"Beekeeping in California"—499.
 "Beekeeping in Indiana"—451.
 "Beekeeping in Iowa"—345.
 "Beekeeping in Pennsylvania"—582.
 "Beginning with Bees in Maine"—595.
 "Building Up for the Honey"—345.
 "Calendar for Honey Producers"—345.
 "Early Apiary Activities"—345.

"Hints for Using Honey"—69.
 "Honey and Some of the Ways It May Be Used"—351.
 "Honey in the Child's Diet"—345.
 "Improved Production"—345.
 "Package Bees"—345.
 "Package Bees and How to Install Them"—345.
 "Package Bees in Manitoba"—582.
 "Preparation of Honey for Sale"—451.
 "Preparing for Extracted Honey"—345.
 "Quality Queens"—345.
 "Quantitative Demonstration of the Presence of Spores of Bacillus Larvae in Honey Contaminated by Contact with A.F.B."—436.
 "Radio Discussion for National Honey Week"—345.
 "Recognition and Control of Honeybee Brood Diseases"—508.
 "Shipping of Package Bees"—367.
 "Starting Right with Bees"—345.
 "Stock Improvement"—345.
 "Swarming in the Making"—345.
 "The Beekeeping News"—283.
 "The Wax Moth and Its Control"—332.
 "Uses of Honey"—345.
 "Wintering Bees in Iowa"—451.

Burleson Honey House Built for Service—386.

C

Cage for Mating Queens—550.
 Cale, Jr. Catching a Swarm—332.
 California Bulletin on Beekeeping—499.
 California Colony Record—518.
 California Live Wire Beekeepers' Association—240.
 California, Trip to State Convention—68.
 Canadian Booklet on Package Bees—343.
 Canadian Honey Bulletin—351.
 Canadian Honey Grading Law—121.
 Canadian Honey Industry—457.
 Capping Melter, New Type—36.
 Cappings of Wax, Profitable Use of—339.
 Carbolic Acid, Driving Bees from A.F.B. with—127.
 Carbolic Acid to Combat Robber Bees—384.
 Carbolic Acid, Useful Chemical—286.
 Cartons for Sixty Pound Cans—69.
 Case, H. L., Death of—251.
 Cases, Practical Winter—593.
 Chaff Tray Against Summer Heat—384.
 Chemicals, Beekeepers Two Most Useful Ones—286.
 Cholera Resistant Hogs, Search for—288.
 Christmas Seals, Thirty Years of—605.
 Chunk Honey Production—242.
 Clamping Hive Parts for Moving in Migratory Beekeeping—535.
 Clay, Harold J., Honey Market Service—182.
 Colonies, Beware the Spring—234.
 Colonies, Four Hundred As a Side Line—237.
 Colonies Melting Down in 1936—512.
 Colonies, Over Wintered, Influence of Pollen Reserves on the Surviving Population of—452.
 Colonies, Solving Spring Problems of—231.
 Comb Honey, Cut, Foundation for Production of—169.
 Comb Honey for Hay Fever—398.
 Comb Honey Producer, Chas. Kruse—503.
 Combs, Saving Defective Ones—288.
 Containers for Honey, Proposed Revision of—283.
 Cornfields, Nectar from—82.
 Corn Syrup, Why Doctors Favor—351.
 Cost of a Job—605.
 Cost of Producing a Pound of Honey—7.
 Cover Picture—117, 170, 436, 518.
 Coveyou, E. E., Death of—73.
 Crop and Market Report—48, 95, 149, 205, 261, 313, 365, 416, 468, 520, 564, 612.
 Cyanogas, Useful Chemical—286.

D

Dadant Hives—582.
 Davidson's, Miss, Recipes—400, 442, 552, 553, 561.
 Davitte Experiment—22.
 Dextrose, Pounding It Out of Honey—18.
 Disease Prevention—21.
 Disease Resistance and American Foulbrood—12.
 Diseased Colonies, Renovating Equipment of—240.
 Doughnuts of Honey—345.
 Dripout, Beware of Imitations—582.
 Driving Bees from A.F.B. with Carbolic Acid—127.
 Dusting by Airplane Poisons Bees—21.
 Dusting of Cotton Poisons Bees—298.

E

EDITORIALS—

Advertise—337.
 American Honey Institute, Are You a Member of—174.
 Apiary Expansion—585.
 Bee Disease in the News—388.

Bee, No One Best, for All Locations—283.
 Bee Pasture, Permanent—337, 491.
 Beekeepers' Prospect Ahead—175.
 Beekeeping and Horticulture Organizations—543.
 Beekeeping, Encourage the Beginner—439.
 Beekeeping History—439.
 Beekeeping, Public Recognition of—233.
 Bees and the Public—337.
 Bees, Caucasian—584.
 Bees, Development of Disease of—115.
 Bees, Disease Resistance in—63.
 Bees in the Orchard—233.
 Bees in Town—543.
 Bees, Opportunity with—542.
 Bees, Place in Agriculture—388.
 Be on Time—285.
 Cash or Contentment—284.
 Caucasian Bees—584.
 Cellar Wintering—584.
 Colonies or Packages for Orchard Use—491.
 Combating Pests—336.
 Comb Honey, Place for—585.
 Combs, Good—174, 233.
 Convention, Next National in Texas—62, 542.
 Disease, Cooperative Experiment of—332.
 Disease, Cost of—388.
 Disease Experiment—119.
 Disease Resistance in Bees—63, 336.
 Disease, New Plans for Study of—490.
 Disease, Spread of—490.
 Diversification—11.
 Diversification or Specialization—439.
 Doolittle's Credit—119.
 Drones, Poor—439.
 Drought—388, 543.
 Dust vs. Liquid Spray—10.
 Editor Wants to Know Best Result Get—585.
 Forward March—10.
 Foulbrood, Don't Take Chances—10.
 Freight Rates—175, 285.
 Greetings for the Holidays—584.
 Guest Editorials—336, 388.
 Hive, Modified Dadant—62.
 Hives, Use Top Entrances—175.
 Honey, Containers for—438.
 Honey Crop, Prospects for—119.
 Honey, Filtered—119.
 Honey from Corn—118.
 Honey, Future for—542.
 Honey, Get Ready for Early Flow of—118.
 Honey, Heavier Yields at Higher Levels—62.
 Honey in Sweet Clover Region—585.
 Honey, King Tut's—337.
 Honey, North for, South for Bees—63.
 Honey Plants—491, 232.
 Honey Production, Is It on a Decline—63.
 Honeyflows, Erratic—389.
 House Apiary—285.
 International Beekeeping Congress—174.
 International Horticultural Exposition—388, 433, 542.
 Iowa Summer Meeting—284.
 Junk Pile—543.
 Keep Up the Quality—11.
 Legumes, New—285.
 Living at Home—389.
 Locality, Problems of—439.
 Locust, Black—543.
 Maple Syrup—491.
 Market Prospect—389.
 Markets, Who Holds—118.
 Mating Controlled—491.
 Meetings, Summer—337.
 Mice, Protect Against—585.
 Minerals and Health—438.
 Nectar Secretion—232.
 Nectar Secretion, Variety Differences in—585.
 Optimists—543.
 Package Bees, Will It Pay to Raise Own in the South?—284.
 Pennsylvania Leads in Beekeeping—491.
 Plant Breeding for Disease Resistance—175.
 Plant Poisoning of Bees—10.
 Plants, New—389.
 Poison by the Wholesale—233.
 Poison, Protection Against—584.
 Prospect, Promising—11.
 Pure Food Law—389.
 Queen, Cause of Failure of—119.
 Queens, Save the Best—118.
 Rain—174, 233.
 Rainfall and the Honeyflow—337.
 Recent Progress—336.
 Requeen, Shall I?—284.
 Research, Trend of—438.
 San Antonio Meeting—233, 542.
 Save the Trees—11.
 Search for Something New—336.
 Show Your Product—11.
 Standardization—543.
 Suggestion for Removing Feathers from Fowls—585.
 Supers—175.
 Swarming—389.
 Swarms, Watch for—285.
 Sweet Clover Saves the Day—438.
 Temperature and Honeyflow—490.

Watson, Dr. Awarded Recognition—232.
Wax, Save—491.
What Price Honey—10, 62.
Winter Ahead—438.
Winter Dangers—63.
Winter, Get Ready for—490.
Winter Losses—119.
Wintering in Cellar—584.

Editor's Answers—33, 85, 136, 194, 250,
302, 357, 408, 512, 590.
End Spacer Device—403.

EXHIBITS—

Bakery Window—398.
Birmingham, Ala.—83.
Bodenschatz, Adam—9.
Foreign Honey at Texas Centennial—540.
Hankammer Bee Supply Store—9.
Hiatt, R. D.—31.
Hill, R. W.—507.
International, San Antonio, Texas—290,
397.
Texas Centennial—540.

Expressing Package Bees from South to
North—176.
Extractor, to Fasten Down—567.

F

Federal-State Plans for Investigations on Re-
sistance of Bees to A.F.B.—501.
Feeder Pails, Punch for—597.
Feeding Bees in Open Air—549.
Filtration of Honey—288.
Filtered Honey—61.
Filtering Problem, Other Side of—22.
Fireweed Flights—597.
Fish Fry, Do You Swap at—504.
Flighty, Amusing Adventures of—247, 458.
Florida, Beekeeping in—66, 394, 502.
Fontaine, Florence, Burned by Wax—449.
Foot Trip Door—435.
Foreign Honey for Texas Meeting—290,
397, 540.
Foss, Chas., Death of—509.
Foster, James, Death of—419.
Foundation, How to Use for Cut Comb Hon-
ey—169.
Frances, Celebrate 56th Anniversary—509.
Frame End Spacing Device—402.
Frame Wiring, Another Scheme for—75.
French Honey Drinks—541.

G

Glass Honey Containers—505.
Goldenrod as a Honey Plant—402, 595.
Goldenrod for Rubber—263.
Gold Medal Coronation Menu Campaign—
545.
Goodman, Miss Willah, Financial Secretary
American Honey Institute—541.
Grey Bees—76.

GUEST EDITORIAL—

Hambleton, James I.—334.
Lothrop, R. E.—583.
Rea, Geo. H.—385.
Robinson, J. M.—489.
White, Lewis M.—437.

Gwin on Beeswax—451.

H

Handel's Honey Bar—399.
Hankammer Hardware Co. Exhibit—9.
Harbour, Lloyd, Found—442.
Harbour, Lloyd, Missing—304.
Hawaii As Our 49th State—130.
Hay Fever, Comb Honey for—398.
Herbert, the Hobbyist, Paves the Way—124.
Hibernation—21.
Hive As Scale, Record of—393.
Hive, Modified Dadant, Further Modifica-
tion of—26.
Hive, Modified Dadant, for Section Honey—
297.
Hive, Twin Mating—122.
Hive Ventilation—536.
Hives, Numbering of—187.
Hives, Permanent Protection of—547.
Hiving Package Bees, Five Ways—227.
Honey Abroad—567.
Honey Adulteration Detected by Present
Methods—396.
Honey Adulterators Fined—347.
Honey and Arthritis—591.
Honey and Beeswax in Trade Agreement
Act—347.
Honey and Maple Sugar—445.
Honey and Salesmanship—454.
Honey and Syrups, Relative Moisture Con-
tent of—345.
Honey Baby—545, 599.
Honey Bar, Handel's—399.
Honey Bear Trap—296.
Honey, Bears Like—87.
Honey, Bounty on—347.
Honey Clarifying, Equipment for—548.
Honey Containers of Glass—505.
Honey Containers, Proposed Revision of—
288.

Honey Consumption, Plan of Cooperation—
339.
Honey, Cooperative Marketing—436.
Honey, Cost of Producing a Pound—7.
Honey Crop and Market Report—(See Crop
and Market).
Honey Crop in New Zealand—347.
Honey, Demand for—450.
Honey, Demonstration Opportunities of—
606.
Honey Display in Vacant Windows—603.
Honey Doughnuts—345.
Honey Drinks of France—541.
Honey Exhibits—(See Exhibits).
Honey, Filtered—61.
Honey Filtering—22, 288, 449, 548.
Honey for Cosmetics—586.
Honey for the Holidays—600.
Honey for Honey's Sake—72.
Honey for Hotel Rooms—512.
Honey for Shave Massage—551.
Honey for Teeth—551.
Honey Gate, Painting of—15.

HONEY GETTING—

Sechrist a "Honey Getter" Under Four
Suns—235.
No. 1. Introduction—123.
No. 2. Essential Factors in Profitable
Honey Getting and How to Provide
Them—188.
No. 3. The Clear Brood Nest Method—
245.
No. 4. Securing Uniformity in Colonies—
348.
No. 5. Control of Queens and Swarming—
443.
No. 6. Keeping Bees Good Tempered—494.
Corrections in Article—536.
No. 7. Systems of Management in the
Clear Brood Nest Method—588.

Honey Grading Law of Canada—121.
Honey, Heating Without Stirring—497.
Honey House, Built for Service—386.
Honey House, Inexpensive—229.
Honey House, Is There a Model One—290.
Honey, Humming Birds Battle Over—457.
Honey Hunter of Tanganyika—497.
Honey in the Newspaper, Bakeshop and
Home—596.
Honey, Mailing Pail of, Direct to Consumer—
391.
Honey Market Service and Harold J. Clay—
182.
Honey Marketing, Servicing Grocery Stores—
59, 81.
Honey, Mineral Constituents of—346.
Honey, Mislabeling of, by Brooklyn Com-
pany—33.
Honey Packers, Skep and Comb—27.

HONEY PLANTS—

Algaroba—130.
Australian Pepper—509.
Blackwood—129.
Blue Flowered Sweet Clover—72.
Broccoli—239.
Eucalyptus—129.
Fireweed—447.
Goldenrod—402, 595.
Heartsease—186, 402.
Lespedeza—402, 546.
Locust—186.
Madrone—448.
Marigold—402.
Oregon Maple—448.
Salal—448.
Sidney Wattle—128.
Spanish Needle—402.
Wild Aster—402.
Willow—448.

Honey, Pounding the Dextrose Out of—18.
Honey Prices—66.
Honey Processing for Small Containers—
456.
Honey Producers' Association of Mountain
States Assigned to Trust Co.—283.
Honey Producers Successful Cooperation—
445.
Honey Production—123, 188, 235, 245, 348,
443.
Honey Production, Cost of—343.
Honey Production Improved—230.
Honey, Production of Chunk—242.
Honey Salesmanship Without Frills—450.
Honey, Seattle Pushes in National Week—
23.
Honey Selling—507.
Honey Selling at the Apiary—498.
Honey Selling Cartoon of—507.
Honey Selling Help—293.
Honey Selling, the Jobber's Job—392.
Honey Soybean Bread—343.
Honey Straining, Method of—383.
Honey to Sweeten Coffee—291.
Honey Where the Water Flows—344.
Honeyflows, Ancient—184.
Humming Birds Battle Over Honey—457.

I

Illinois Association Mid-Summer Meeting—
502.

Illinois Conservation Program—498.
Illinois State Fair Prize Winning Recipes—
345.
Illinois State Report—561.
Indiana Bulletin on Brood Diseases—508.
Indiana Losses—170.
Influence of Size of Brood Cell Upon Size of
Worker Bee—178.
Insects Pollinating Onions—401.
Inspection of Ohio—121.
International Beekeepers' Conference Pro-
gram, Texas—556.
International Convention—34.
International Honey Exhibit—290, 397.
Iowa Bulletin on Selling Honey—451.
Iowa Bulletin on Wintering Bees—451.
Iowa Homemakers' Bulletins—345.
Iowa State Apiarist, Office of—23.
Iowa State Apiarist, Report of—435, 499.
Iowa State Meeting Report—80.
Italians, Superior Qualities of Yellow—358.

J

Jacobson, Geo., Bee Yard of—333.
Job, Cost of—605.
Jobber's Job in Selling Honey—392.
Johnson, E. M., Death of—435.
Jokes—61, 191, 298, 560.

K

Kansas, 400 Beekeepers Wanted in—20.
Kansas, Transportation of Bees and Equip-
ment Across—136.
Kellogg on the Job—82.
Kelty, R. H., Plans Western Trip—541.
Kinzie's News Letter—315.
Kruze, Chas., Master Comb Honey Producer
—503.

L

Labor Required Per Colony—291.
Leininger, Fred, Death of—335.
Leapedeza, Report on—402.
Leapedeza As a Honey Plant—546.
L'hommedieu, D. L., Death of—170.
Library of Miller Memorial Fascinates Vis-
itors—74.
Little Blue Kitchen—32, 84, 134, 241.

LIVES OF FAMOUS BEEKEEPERS—

Bertrand, Edouard—132.
Martin, J. H.—28.
Miller, Dr. C. C.—299, 350.
Secundus, Gaius Plinius—604.
Varro, Marcus Terentius—510.
Von Hruschka, F. E.—404.

Location, Changes in—80.
Looking Ahead for the Pickup—581.
Louisiana Bulletin on Shipping Package Bees
—367.
Louisiana Bulletin on Wax Moth—332.
Louisiana Comb Package Shippers' Meeting
—68.

M

Mailing Pail of Honey Direct to Consumer—
391.
Manitoba Inspection—335.
Manitoba, Wintering Bees in—434.
Manpani Bees—32.
Maple Sugar and Honey—445.
Marathon Basin—293.
Marigold Section of Lower Delaware River
—402.
Marketing Agreement for Bees and Queens
—24, 25, 69.
Marketing, Cooperative—436.
Marketing Honey—59, 81.
Martin, J. H., Life of—28.
Mayan Bees—555.

MEETINGS AND EVENTS—

Alabama—538.
Alberta—607.
American Association of Economic Ento-
mologists—86.
American Honey Producers' League—556.
Apiary Inspectors of America—556.
British Columbia—70.
California—68, 558, 607.
Detroit Convention Report—34.
England—251.
Florida—139, 406.
Georgia—251, 408, 460.
Idaho—406.
Illinois—
Central Illinois—354.
Champaign Co.—253, 362.
Cook-DuPage Co.—39, 139, 251.
DeKalb Co.—409, 557.
Ford Co.—362.
Fulton Co.—559.
Illinois-Indiana—138.
Illinois State Convention—85.
Illinois State Convention Report—561,
568.
Illinois State Fair—407.
Iroquois Co.—362.
Kankakee Co.—362.

Lower Illinois Valley—558.
 Macon-Piatt Co.—354, 362.
 Marissa Field Meet—305.
 Morgan-Scott Co.—140.
 Peoria Co.—359, 406.
 Piatt Co.—140, 558.
 Rock Island Co.—515.
 Rock River Valley—560.
 St. Clair Co.—38, 138, 195, 362, 502.
 Savanna, Dist. No. 1—516.
 Tazewell Co.—517.
 Vermillion Co.—409.

Indiana—16, 45, 70, 138, 195, 252, 352, 462, 513, 560.
 International Conventions—34, 194, 556.
 International Horticultural Exposition—460.

Iowa—80, 361, 460, 557, 607.
 Iowa State Convention Report—56.
 Kansas—36, 139, 354, 517.
 Kentucky—38.
 Louisiana—559.
 Louisiana Comb Package Shippers—68.
 Manitoba—39, 131, 362.
 Marketing Agreement Control Committee—556.

Massachusetts—38, 411, 557.
 Michigan—34, 70, 195, 361, 410, 460.
 Minnesota—410.
 Missouri—36, 359, 504, 514, 515.
 National Honey Cookery Contest—289, 360.

National Honey Week—513.
 National Honey Week in Portland—83.
 Nebraska—139, 287.
 New Jersey—38, 303, 363.
 New York—407, 409, 464, 515, 560, 607, 608.

North Carolina—409.
 North Dakota—38.
 Ohio—36, 38, 45, 354, 410.
 Oklahoma—460.
 Oregon—83, 558.
 Pennsylvania—408.
 Queen Breeders and Bee Shippers—556.
 Southern States Conference Report—17, 78.

Texas—251, 303, 352, 355, 407, 411, 513, 516, 556.
 Utah—39, 139, 515, 607.
 Vermont—408.
 Virginia—70, 359, 539, 607.
 Washington—38, 70, 140, 251, 515, 607.
 Wisconsin—37, 195, 252, 355, 361, 406, 461, 607.

Melting Down in 1936—512.
 Michigan Losses—177.
 Michigan Rules and Regulations of Importation of Bees—75.
 Michigan State Bulletin on Using Honey—69.

Migrants—69.
 Migratory Beekeeping, Does It Pay?—544.
 Miller, Dr. C. C., Life of—299, 350.
 Miller Memorial Library Fascinates Visitors—74.
 Mineral Constituents of Honey—346.
 Modification of Modified Dadant Hive—26.
 Moisture Content of Syrups and Honey—345.
 Monterey, Old—558.
 Moth Balls for Wax Moths—441, 451.
 Mother Eustacia, Death of—333.
 Mountain States Association Assigned to Boise Trust—213.
 Moving in Migratory Beekeeping—535.

N

National Honey Cookery Contest—289, 360, 523.
 National Honey Cookery Contest Winner—122.
 National Honey Week, Change in 1937—181.
 National Honey Week in Portland—83.
 Nebraska Administrator Helps Put Over Demonstration—287.
 Nectar from the Cornfields—32.
 Nectar, Question of—123, 185.
 New Bee, Are We Ready for—64, 180.
 New Bee, Here Comes—485, 601.
 New Beekeeping and the Scientist—238.
 New York Bulletin, Beekeeping News—283.
 North Meets South—22.

O

OBITUARY—

Bixler, John M.—335.
 Case, H. L.—251.
 Coveyou, E. E.—73.
 Foss, C. E.—509.
 Foster, James—419.
 Johnson, E. M.—435.
 Leininger, Fred—335.
 L'hommedieu, D. L.—170.
 Mother Eustacia—333.
 Rhee, R. T.—170.
 Sauer, G. L.—335.
 Smith, Mrs. Olga—133.
 Stanley, Ulysses G.—114.
 Walker, J. Harley—419.

Odor of Fear Causes Sting—555.
 Ohio Inspection—121.
 Oklahoma, News from—170, 489.
 Old English Writings—123, 124, 184, 231, 347, 351, 384, 397, 435, 442, 451, 459, 566.
 Orchard, Moving to, Hard Work—115.
 Over Wintered Colonies, Influence of Pollen Reserves on Surviving Population of—452.

F

PACKAGE BEES—

Experience of—172.
 Five Ways of Hiving—227.
 How to Install and Care for—171.
 Nature's Free—332.
 Problem of—120.
 Supersedure in—113.
 Transportation from South to North of—176.
 Trucking, Without Feeder Tins—184.
 Volume of Business in 1935—236.
 Wintered Colonies Versus—282.

Park and Parks—442.
 Peat Moss As Smoker Fuel—343.
 Permanent Protection of Hives—547.
 Pettit's Packing for Eight Colonies—553.
 Pie, Bowe-Perry of Honey—501.
 Plants, Factors That Influence Storage of Sugar in—128.
 Poems—83, 393, 435, 457, 597.
 Pogue Stirs Up Express in Interest of National Cookery Contest—523.
 Poisoning of Bees—21, 298, 331.
 Pollen, Influence of, on Surviving Populations of Overwintered Colonies—452.
 Pollinating of Onions by Insects—401.
 Pollination, Experiment in Cross—81.
 Pollination, Moving to Orchard for—115.
 Position Wanted by Palestine Beekeeper—244.
 Postscript—48, 100, 154, 210, 266, 318, 370, 422, 474, 526, 570, 622.
 Prevost Entertained in Virginia—539.
 Prevost, Through South Carolina with—183.
 Processing Honey for Small Containers—486.
 Producing Honey, Cost of—343.
 Production Cost of a Pound of Honey—7.
 Production, Improved—230.
 Production of Chunk Honey—242.

Q

Queen Bees Mated by Davitte Experiment—22.
 Queen, Gauging Its Prolificness—500.
 Queens, Cage for Mating—550.
 Queens from Choice Stock—393.
 Queens from Good Stock—508.
 Queens from Swarms—289.
 Queens, Rearing Above the Excluder—283.
 Queens, Shipment Abroad of—435.
 Queens, Virgins Supersede Old—135.

R

"Rambler," the Life of—28.
 Rambler's Old Haunts—495.
 Rearing Queens Above the Excluder—283.

RECIPES WITH HONEY—

Apples—32, 84, 134.
 Bread—229, 601.
 Cake—140, 173, 289, 561, 601.
 Candy—122, 345, 442, 552, 600, 601.
 Cookies—345, 400, 553, 593, 601.
 Cough Syrup—508.
 Date Squares—601.
 Desserts—134; Frozen—84, 114.
 Drinks—560.
 Griddle Cakes—32.
 Ham—134.
 Honey Topping—333.
 Icing—140, 601.
 Pickles—499.
 Pie—32, 122.
 Prune Whip—84.
 Pudding—400.
 Relishes—499.
 Rolls—82.
 Salad—32, 84.
 Sandwich Fillings—84, 596.
 Sherbet, Hilo Honey—509.
 Waffles—241.
 Whipped Cream with Honey—84.
 Bodenschatz's, Mrs., Pickles and Relishes—499.
 Davidsons, Miss, Recipes—400, 442, 552, 560, 561.
 Illinois State Prize Winning Recipes—345.
 Merrell's, Mrs. C. H., Recipes—600, 601.

Records of Bee Yard—244.
 Registration Collection in Michigan—69.
 Renovating Equipment from Diseased Colonies—240.

REPORTS—

Detroit Convention—84.
 Illinois State Convention—56.

Iowa State Convention—80.
 Southern States Beekeeping Conference—17, 78.

Requeen, Shall We by Time or Performance?—293.
 Rhee, R. T., Death of—170.
 Rotation, New Four Year—399.

S

Salesmanship and Honey—454.
 Saskatchewan Figures—405, 587.
 Sauer, G. L., Death of—335.
 Scale Hive, Record of—393.
 Scientist and the New Beekeeping—238.
 Screen Realism of Bees—400.
 Seattle Pushes Honey—22.
 Sechrist a "Honey Getter"—235.
 Secundus, Gaius Plinius, Life of—604.
 Seeds of Discord—442.
 Servicing Grocery Stores with Honey—59.

SHORT COURSE—

Illinois—16.
 Indiana—16.

Skunks, Traps for—403.
 Smith, Mrs. Olga, Death of—138.
 Smoker Fuels—343, 395, 449.
 Snow in Minnesota—296.
 South Carolina, with Prevost—183.
 Southern States Conference Report—17, 78.
 Spice—191.
 Spring Problems, Solving of—231.
 Stanley, Ulysses G., Death of—114.
 Sting of Bee Solves Case of Stolen Sweets—358.

STORIES—

"Amusing Adventures of Flighty"—247, 458.
 "Mr. Beebe Tries to Help"—295.

Storing Honey in Jar by Bees—567.
 Stover, Committee Eulogizes—72.
 Sturtevant's Bulletin of Spores of Bacillus Larvae in Honey—436.
 Sulphur for Bee Moth—561.
 Supersedure, Forced—279.
 Supersedure in Packages—113.
 Swarm Caught by Cale, Jr.—332.
 Swarm Control, Problem of—292.
 Swarm Disposal When Not Wanted—296.
 Swarm, Large—280, 281.
 Swarms, Observations on the Nature of Bees by—280.

SWEET CLOVER—

Blue Flowered—72, 134.
 Builds Fertility—442.
 Seed Collector—554.
 Why It Fails to Yield—79.

T

Tariff on Beeswax—72.
 Test for Beeswax—281.
 Texas Centennial Honey Exhibit—540.
 Texas Marathon Basin—293.
 Texas Meeting in San Antonio; Round Trip Fare to—555.
 Texas Meeting, Plane to—332.
 Texas Meeting, Suggestion for—536.
 Texas, Optimism in—333.
 Thirteenth Month—587.
 Top Entrances Again—506.
 Trade Agreements Act, Honey and Beeswax in—347.
 Transportation of Bees and Equipment Across Kansas—196.
 Transportation of Bees Between South and North—176.
 Trap Bees Out of a Tree—384.
 Traps for Skunks—403.
 Trucking Bees in Orchard—115.
 Trucking Package Bees Without Feeder Tins—184.
 Twin Mating Hive—122.
 Twins, Honeybee—567.

U

Utah Crop the Finest—518.

V

Vagabond Beekeepers—602.
 Varro, Marcus Terentius, Life of—510.
 Ventilation of Hives—536.
 Ventilation Under Snow—592.
 Ventilation, Upward—551.
 Vigo County Association Steps to the Microphone—125.
 Virginia Conditions in Beekeeping—114.
 Virginians Entertain Prevost—539.
 Von Hruschka, Major F. E., Life of—404.

W

Walker, J. Harley, Death of—419.
 Washington Honey Prices—440.
 Wax Capping Press—440.
 Wax Cappings, Making Profitable Use of—339.

Wax Melting, Pleasant—598.
 Wax Moths—445, 599.
 Wax Moths, Controlling—537.
 Wax Moths, Moth Balls for—440, 451.
 Wax, Trick in Getting—191.
 Who's It—506, 545.
 Winter Cases, Practical—593.
 Winter, How Are You Going to—508.
 Winter Loss—340.
 Winter Packing with Top Entrances—553.
 Wintered Colonies Versus Packages—282.
 Wintering Bees in Eight Colony Cases—71, 553.
 Wintering Bees in Two Colony Pack with Balsam-Wool—492.
 Wintering Bees in Manitoba—484.
 Wiring Scheme for Frames—75.

Y

Yakima Yield High—486.
 Yard Records—244.
 Yields, Wintered Colonies versus Packages—282.
 Youngsters Aren't Quitting the Bees—298.

ILLUSTRATIONS

A

Abushady, Miss Hoda, Near Hive—76.
 Agee Family, Vagabond Beekeepers—602, 603.
 Alabama Honey Exhibit and Demonstration Booth—538.
 Algarobas, Home and Bees Under—130.
 A.F.B. Insert in Combs of Brood—12, 13, 14, 15.
 American Honey Institute Demonstration Booth—538.
 Anderson, A. B. and Family—293.
 Animal Science Building, University of California—595.

APIARY—

Bodenschatz, Adam—61.
 Central Apiary of B.K.L. Egypt—76.
 Coffey, Heber, Hawaii—131.
 Government and Experimental Station, Egypt—76, 77.
 Howard, Wm.—593.
 Jacobson, Geo., Wisconsin—333.
 Marks, W. H., on River Barge—344.
 Sauer, G. L.—335.
 Sechrist, E. L., Tahiti—235.
 Shultz, Arthur—498.
 Worth, W. W., Florida—398.

APIARY—

Colonies Covered with Snow—498, 508, 553.
 Colonies of Thirty-two, Grouped for Wintering—72.
 Eight Colony Cases for Wintering—71.
 House Apiary Switzerland—133.
 In Summer—593.
 In Winter Packing Cases—593.
 Mating Yard in the South—243.
 Multiple Packing in Minnesota—553.
 Showing Blossoming Fireweed, Washington—446, 447.
 Showing Uniformity—443.
 Tator, Greece—77.
 University of California and Building of Division of Beekeeping—594.
 Where Demonstrations are Made, University of California—594.

Australian Pepper Trees—509.

B

Banning, W. B.—287.
 Barnes, Marvin, Honey Baby—599.
 Bee Book, the First—74.
 Beehive, Largest—505.
 Bertrand, Edouard—132.
 Blackwood Tree—129.
 Bodenschatz, Adam, Apiary of—61.
 Bodenschatz, Adam, Exhibit of—9, 122.
 Bodenschatz, Mrs. Adam—122.
 Boiler for Extracting—390.
 Broccoli—239.
 Brood Nest, Fall Pollen Reserve Negligible—452.
 Brood Nest, Honeybound—245.
 Brood Nest Increased by Pollen—453, 454, 455.
 Brood Removed for Nuclei—349.
 Burleson's Honey House and Equipment—386, 387, 390.

C

Cage for Mating Queens—550.
 Cale, G. H.—234, 570.
 Cale, Jr., with Swarm—332.
 Candy Bar—399.
 Carbolic Acid Used for Foulbrood—127.

CARTOONS—

Airplane Dusting—21.
 American Honey Institute—30, 587.
 Beekeeper and Amateur—456.

Beekeepers' Troubles—544.
 Foulbrood Resistance—506.
 Hibernation—21.
 Honey Marketing—507.

Clay, Harold J.—182.
 Clover Field, Children in—185.
 Clover Field in Virginia Valley—544.
 Coffey, Heber, Apiary and Equipment of—131.
 Colonies of Bees Kept Good Tempered—494.
 Colonies of Uniformity and Work Systematized—348.
 Colonies Packed for Winter—71, 493.
 Colonies With Supers Without Swarming—188.
 Colony Showing Winter Loss—340, 341.
 Colony of Standard Storing Strength—589.
 Comb Built to the Wood at Top Only—297.
 Comb of Brood with A.F.B. Insert—12, 13, 14, 15.
 Combs Showing Winter Loss—340, 341.

COVERS—

January—Snow Scene.
 February—Children Crossing over Rail Fence.
 March—Pigs.
 April—Royal Maple.
 May—Child under Apple Tree.
 June—Children in Clover Field.
 July—Hives with Supers on.
 August—Cattle Grazing in Clover Pasture.
 September—Bees on Orange Bloom.
 October—Girl with Hat Full of Apples.
 November—Children Cutting Pumpkin Face.
 December—Christmas.

D

Dadant, James C.—526.
 Dadant, Robert H.—526.
 Demonstration Booth of American Honey Institute—538.
 Derrenbacher, Frank Jr., Among His Bees—114.

DIAGRAMS—

Eight Colony Cases for Wintering Bees—71.
 Frame Wiring Scheme—75.
 Handy Foot Trip Door—435.
 Hive Packing—547.
 Hive Temperature in Winter—547.
 Hives Ready for Fumigation—537.
 Honey Filter, Brand's—548, 549.
 Honey House—229, 290, 387.
 Honey Pail for Mailing—391.
 Pettit's Packing for Eight Colonies—553.
 Sweet Clover Seed Collector—554.
 Tanks for Straining Honey—383.
 Trap for Bees in Tree—384.
 Wax Melter Tank—598.
 Wings and Proboscis of Bees—178, 179.

Display of Honey After Processing—487.

E

Eckert, Dr. J. E.—594.
 Eight-Frame Hive Open to Show False Ends for Air—503.
 End Spacing Tack—403.
 Entrances of Hive—503.
 Eucalyptus—129.

EXHIBITS—

Alabama State Fair—538.
 Bodenschatz, Adam, Lemont, Ill.—9.
 Bodenschatz, Adam, Honey Week Display—122.
 Grocery Store—60.
 Hankammer Hardware Co., St. Louis—9.
 Hiatt, R. D., Columbus, Ohio—31.
 Hill, R. W., Washington—507.
 Massachusetts, Berkshire Co. Association—557.
 Southern Conference, Birmingham, Ala.—83.
 Texas Centennial—540.

Extracting Equipment, Burleson's—386, 387, 390.
 Extractor, Hruschka's—404.

F

Feeder Pails and Punch for—597.
 Flighty—247, 458.

FLORA—

Australian Pepper—509.
 Blackwood Tree—129.
 Broccoli—239.
 Eucalyptus—129.
 Fireweed—446, 447.
 Heartsease—186; Giant—402.
 Locust—186.
 Madrone—448.
 Oregon Maple—448.
 Salal—448.
 Sidney Wattle—128.

Snow on the Mountain—488.
 Sweet Clover Field—186.
 Willow—448.

Food Packing Plant—59.
 Foot Trip Door—435.
 Foss, Chas.—509.
 Frame Containing A.F.B. Insert—12, 13, 14, 15.
 Frame of Brood with Bees—189.
 Frame of Comb, Ideal for Cut Comb Honey—169.
 Frame Wiring Scheme—75.
 Frames of Brood with Pollen Reserves—452, 453, 454, 455.
 Fumigation, Hives Ready for—537.

G

Girls Face After Beautifying—586.
 Goodman, Miss Willah—541.
 Grimsley, V. M., Bids Bees Farewell—177.
 Grocery Store Displays Honey—60.

GROUPS—

Alamo, Texas, in Front of—352.
 Anderson, A. B. and Family—293.
 Children in Clover Field—185.
 Kruse, Chas., and Carl Killion—503.
 Park and Parks—442.
 Railway Express Employees with Package Bee Shipment—176.
 St. Charles and St. Louis Beekeepers' Fish Fry Picnic—504.
 St. Louis Co. Association Officers—514.
 Screen Scene, "These Three"—400.
 Virginia Beekeepers, Officers and Visitors—539.
 Wisconsin Summer Meeting—461.

Grout, Roy A.—526.

H

Hambleton, James I.—334.
 Handel's Honey Bar—399.
 Hankammer Hardware Co. Exhibit—9.
 Harford, E., and Swarm—280.
 Hawaii, Coffey's Apiary in—131.
 Heartsease—186.
 Herbert, E. Roland, Among His Bees—124.
 Hiatt, R. D., Exhibit of—31.
 Hive Arrangement for Installing Package Bees—171.
 Hive Entrances—503.
 Hive Numbering—187.
 Hive, Twin Mating—122.
 Hives, Fumigating with Chemicals—286, 287.
 Hives in Orchard—116, 117.
 Hives Processed with Carbolic Acid for A.F.B.—127.
 Hives, Ready to Fumigate—537.
 Hives Showing Honeybound Brood Nest—245.
 Hives Showing Ventilation—536.
 Honey Baby—545, 599.
 Honey Goodies—600.
 Honey House, Drawings of—229, 290, 387.
 Honey House in Hawaii—131.
 Honey in Jars, Extracted with and without Shield with Light Effects—18, 19.
 Honey Jars, Straw Skep and Honey Comb Design—27.
 Honey on Display in Seattle Stores—60.
 Honey Used to Sweeten Coffee—291.
 House Apiary in Switzerland—133.

J

Jacobson, Geo., and Apiary—333.
 Jars of Extracted Honey with Light Effects—18, 19.

K

Kellogg Kitchen—82.
 Keltz, R. H.—506, 541.
 Killion, Carl, and Chas. Kruse—503.
 Kruse, Chas., and Carl Killion—503.

L

Leininger, Fred—335.
 Locust—186.
 Lyle, Newman I.—242.
 Lyle's Method for Chunk Honey—242, 243.

M

Marks, W. H., River Extracting Barge—344.
 Miller, Dr. C. C.—299.
 Monterrey, Old, in Mexico—558.
 Mraz, Charles—286.

N

Nuclei, Two Rows of—550.

O

Observation Hive—398.
 Orchard, Acres of—115.
 Orchard, Hives in—116, 117.
 Orchard, Trucking Hives in—116.
 Owens-Illinois Glass Co. Advertisement—291.

P

Package Bees, Methods of Installing—171.
 Package Bees, Shipments of—176, 177.
 Paddock, F. B.—231.
 Park and Parks—442.

PHOTOGRAPHS—

Banning, W. B.—287.
 Bertrand, Edouard—132.
 Bodenschatz, Mrs. Adam—122, 499.
 Cale, G. H.—234, 570.
 Clay, Harold J.—182.
 Dadant, James C.—526.
 Dadant, Robert H.—526.
 Derrenbacher, Frank Jr.—114.
 Foss, Charles—509.
 Goodman, Miss Willah—541.
 Grout, Roy A.—526.
 Hambleton, James L.—384.
 Herbert, E. Roland—124.
 Kelty, R. H.—506, 541.
 Leininger, Fred—335.
 Lyle, Newman I.—242.
 Martin, J. H.—28.
 Miller, Dr. C. C.—299.
 Mraz, Chas.—286.
 Ocker, Dale DeWayne—545.
 Paddock, F. B.—231.
 Prevost, Ned—183.
 Puhl, Edward—230.
 Rambler, The—28, 29.
 Rea, Geo. H.—385.
 Rheas, R. T.—170.
 Robinson, J. M.—489.
 Sechrist, E. L.—123, 494.
 Small, A. V.—237.
 Stanley, Ulysses G.—114.
 Stewart, L. R.—462.
 Von Hruschka, Maj. Franz Edlen—404.
 Watson, Dr. Lloyd R.—64.
 White, Lewis—437.
 Worth, W. W.—398.
 Prevost, Ned—183.
 Puhl, Edward—230.

Q

Queens, Cage for Mating—550.
 Queen Kept Down by an Excluder—588.

R

Rambler's Old Haunts—495.
 Rea, Geo. H.—385.
 Redenbacher, Co. Agent, Broadcasts Bee News—125.
 Rheas, R. T.—170.
 Robinson, J. M.—489.
 Roof, Removing a Colony of Bees from—505.

S

Sauer, G. L.—335.

SCENES—

Barge on River in Florida—344.
 Boat on Puget Sound—448.
 Brown Canyon, California—495.
 Columbia River Mouth and Light House—446.
 Dawson Canyon, California—495.
 Mangroves in Florida—395.
 Multiple Packing in Minnesota—553.
 Old Monterey—558.
 Palmettos in Florida—394.
 Rambler's Haunts—495.
 Screen Realism—400.
 Snow Covered Colonies—498, 553.
 Snow in Minnesota—296.
 Valley of Clover Bloom in Virginia—544.
 Washington Burnt Over Land Showing Fireweed Blooms—446, 447.
 Sears, Roebuck & Co. Display of honey—60.
 Sechrist, E. L.—123, 494.
 Sechrist, E. L., Apiary of—235.
 Sidney Wattle—128.
 Small, A. V., Beside Liquefying Tank—237.
 Stanley, Ulysses G.—114.
 Stewart, L. R.—462.
 Supers on Hives—188.
 Supers Piled High—333.
 Supers, Twenty-four Section Capacity—297.
 Supers Where Breeding Queens Are Selected—243.
 Swarm, Cale Jr. with—332.
 Swarm in Tree—280, 292.
 Swarm on Limb—281.
 Swarm on Man's Arm—506.
 Sweet Clover Field—186.
 Sweet Clover Seed Collector—554.

T

Tanks for Liquefying Honey—486, 487.
 Tanks for Straining Honey—383.
 Texas, Outline of—293.
 Trap for Trapping Bees from Tree—384.
 Truck for Delivering Honey—59.
 Truck Loading from Extracting Platform—390.

Trucking Bees in Orchard—116.
 Twin Mating Hive—122.

U

University of California Students with Anatomy of Honeybee—595.

V

Vigo Co., Indiana, Steps to the Microphone—125.
 Von Hruschka, Major Frans Edlen—404.

W

Watson, Dr. Lloyd R.—64.
 Wax Capping Press—440, 441.
 Wax Melter Tank, Stuyvesant's—598.
 White, Lewis—437.
 Winter Packed Bees—282.
 Wintering Bees in Cellar—434.
 Wintering Bees in Two Colony Pack with Balsam-Wool—493.
 Wintering in Eight Colony Cases—71, 72.
 Wiring of Frames—75.
 Wisconsin Summer Meeting—461.
 Wisconsin Youngsters Interested in Beekeeping—298.
 Worth, W. W.—398.

Y

Young, D. A., and Swarm—281.

CONTRIBUTORS

A
 Derrenbacher, Frank Jr., 114, 395, 402.
 Diller, Dr. Isaac S., 394.
 Dodge, Nat N., 446.
 Dowling, A. V., 251.
 Duerrstein, C. W., 516.
 E
 Eckert, J. E., 171, 240, 500, 558.
 Elliott, J. C., 229.
 F
 Failing, John C. Jr., 332.
 Farrar, C. L., 452.
 Ferebee, L. L., 403.
 Ferguson, John S., 407, 515, 560.
 Fife, Austin E., 594.
 Floyd, L. T., 131.
 Fogg, Ralph F., 343.
 Fontaine, Edmond, 283, 549.
 Foster, Robert E., 398, 407, 502.
 Foster, Wesley, 83.
 Francis, Millie, 298.
 Fullerton, F. H., 70, 249, 288, 335, 405, 441, 442.
 G
 Gard, A. P., 497.
 Garman, Frederick, 240.
 Gehris, Edgar D., 555.
 Gilbert, C. H., 486.
 Gordon, Geo., 384.
 Griffin, O. B., 294.
 Grimsley, V. M., 176.
 Grout, Roy A., 80, 86, 178.
 Guyett, Cassius, 185.
 H
 Haffke, O. W., 450.
 Hambleton, James I., 384.
 Hancock, John R., 184, 292, 333.
 Harnatiuk, J., 599.
 Harnack, Wilbert, 339.
 Harrison, Geo. Jr., 26, 340.
 Harvey, M. W., 358.
 Hepner, Jes. S., 518.
 Hewes, W. G., 495.
 Hiatt, A. D., 87, 359, 539.
 Hilbert, Jas. E., 169.
 Hill, R. W., 507.
 Houser, A. R., 409.
 Howard, Wm., 593, 601.
 Huey, C. H., 599.
 Hull, Walter H., 115, 122, 124, 127, 184, 281, 296, 297, 338, 347, 351, 384, 392, 393, 397, 435, 442, 445, 451, 459, 496, 544, 566, 605.

I
 Insinger, H. A., 504.
 J
 Jager, Francis, 333.
 Johnson, Frank F., 435.
 Johnson, Wm., 172.
 K
 Keck-Wiggins, Lida, 32, 77, 84, 134, 241.
 Kellstrand, Emil, 411.
 Kelty, Clifford H., 536.
 Kelty, R. H., 70, 177, 195, 361, 384, 411, 460.
 Keyes, Sir John, 280.
 Kibby, Wm. V., 557.
 King, Rutha E., 345.
 Kinzie, Chas. S., 68, 550.
 Kitson, Dan S., 135.
 Knisley, Alvin, W., 440.
 Korn, F. A., 449.
 L
 Laing, A. B., 400.
 Lanne, Henry E., 597.
 Latham, Allen, 87, 120, 279, 505.
 Lengst, G. J., 290.
 Lewis, W. H., 451.
 Lindsay, W. E., 61, 69, 81.
 Littlejohn, C. M., 23, 541, 587, 597.
 Lohnes, Walter Scott, 517.
 Lothrop, R. E., 238, 346, 396, 583.
 Lyle, Newman I., 242.
 M
 McDonald, L. H., 560.
 McDougall, Mack, 184.
 McDrew, R. H., 24.
 McKinley, W. C., 170.
 MacLachlan, R. G., 128, 185.
 March, Wm., 436.
 Marty, Joe, 351.
 Meacham, F. B., 409.
 Mead, Robert M., 595.
 Merrell, Mrs. Charlotte H., 600.
 Miller, E. S., 289, 291, 393, 450, 508, 561.
 Milum, V. G., 16, 445.
 Moesch, Adolph, 536.
 Mommsen, M. F., 140.
 Morehouse, Bruce, 410.
 Moore, Harrison, 296.
 Morris, D. H., 383.
 Morrison, F. W., 409.
 Morse, Grant D., 551.
 Mraz, Chas., 286, 408.
 Munro, J. A., 38.
 Myers, T. A., 581.
 N
 Neill, I. L., 32, 38, 39, 70, 81, 251, 436, 440, 515, 567.
 Nielsen, Benj., 358, 457, 508.
 Nielsen, Mrs. Benj., 122, 596, 601.
 Noel, Frank, 567.
 O
 Olson, C. A., 139, 251.
 P
 Paddock, F. B., 23, 231, 557.
 Paine, H. S., 238.
 Park, O. W., 12.
 Parker, R. L., 196.
 Parks, H. B., 355.
 Pastian, A. G., 606.

P
 Pellett, F. C., 48, 109, 154, 210, 239, 266, 318, 370, 422, 474, 524, 570, 622.
 Pering, Alfred H., 82, 227, 293, 339, 391, 535.
 Perins, A. H., 399.
 Perrins, Glen, 39, 139, 140, 170, 283, 515, 518, 567.
 Peterson, J. W., 343, 593.
 Pettit, Morlev, 558.
 Phillips, C. E., 18, 79, 113.
 Pogue, Wm. A., 45, 125.
 R
 Rahmlow, H. J., 252, 355, 445.
 Rawson, O. G., 305, 502.
 Rea, Geo. H., 385.
 Reed, J. A., 187.
 Robinson, J. M., 25, 69, 489.
 S
 Sadler, G., 176.
 Sanders, Hy. W., 121, 433.
 Schlotthauer, J. A., 485.
 Scullen, H. A., 558.
 Sechrist, E. L., 123, 188, 245, 348, 443, 494, 536, 588.
 Shaw, F. R., 401.
 Shipton, Howard, 21.
 Singleton, Anberry, 434.
 Smith, C. H., 537.
 Smith, C. P., 408, 460.
 Snyder, Penn G., 7, 288, 399, 554.
 Stanley, Anna P., 114.
 Stapp, J. J., 450.
 Starkey, James E., 16.
 Stepp, W. E., 127, 384.
 Stevenson, S. O., 140, 354.
 Stevenson, T. M., 72.
 Stewart, Ed., 69.
 Stewart, H. W., 20, 22, 81, 139, 237, 385.
 Stewart, L. R., 398.
 Stockdale, Leroy, 39, 393, 555, 560.
 Strider, C. G., 359.
 Sturdevant, J. H., 233, 293, 451, 582, 592, 614.
 Stuyvesant, J. B., 598.
 Sumner, Prof., 280.
 T
 Tanquary, Dr. M. C., 498.
 Taylor, James F., 38.
 Ternan, Mrs. A. E., 545.
 Thompson, Ella, 586.
 Thompson, James F., 73.
 Tonts, Clarence J., 170, 488.
 Tudor, Carl H., 409.
 V
 Van Halter, Frank, 546.
 Van Rossum, A. J., 512.
 W
 Ward, Emory, 603.
 Watson, Dr. Lloyd R., 64, 126, 238.
 Weidenkopf, Arlene, 173, 290, 397, 436, 540.
 Weisner, H. E., 281.
 Whitaker, H. D., 142.
 White, Lewis, 437.
 Whiting, Ivan, 191, 282, 288, 498, 606.
 Wilson, H. F., 182, 287, 338, 552.

The Postscript

GOSSIP ABOUT THE OFFICE
IN THE MAKING OF THE MAGAZINE



Now we are told that Max Schmeling, the boxing champion, is a beekeeper and has a model apiary at his home in Germany. It would be interesting to know how many other famous persons are interested in bees. Ruth Suckow, the American novelist, depended upon her bees for support during the years when she was becoming established as a successful writer.

—ABJ—

A most interesting letter from B. T. Bleasdale, former president of the Iowa Beekeepers' Association, comes from Los Angeles where Bleasdale is spending his later years in retirement. Enclosed is the following:

A kiss of the sun for pardon
A song of a bird for mirth
You are nearer to God in your garden
Than any place else on earth.

—ABJ—

What is true of the garden holds true of the apiary as hundreds of beekeepers will testify. Bleasdale is an old timer and to him is probably due the credit for the development of a practical comb honey super. Our readers interested in digging up such history will be interested in reading Bleasdale's letter to the editor of *Gleanings* and the editorial comment which appeared in that magazine on page 225 of the issue of May, 1882. Beekeeping equipment was in rather a crude state of development then.

—ABJ—

C. W. Wood, of Copemish, Michigan, has previously been mentioned on this page in connection with an occasional article which he writes concerning honey plants. Wood has a trial garden where more different kinds of plants are grown than in any such garden which I know. He grows upward of 200 new items each year and finds not to exceed five per cent of them are worthy of a permanent place.

—ABJ—

A Missouri reader asks about a plant which grows in the swamps of the southeast portion of that state. He describes the plant as resembling the smartweeds in growth with blossoms something like the pussy willow but larger. Since no specimen was sent one can only guess at the identity but it sounds like Lizard's Tail. It is a marsh herb with slender rootstock, jointed stem and small white flowers which grow in dense spikes. Evidently it is a valuable source of honey in wet regions of the southeastern states.

—ABJ—

Paul Jones, of Portsmouth, Ohio, reports a late honeyflow. He says (October 28), "The last few weeks is when the honey came in around here, none but hour to hour and hand to mouth daily needs before that." It is interesting to note that package bees received about June first performed better for him than bees received a month earlier.

Much skill is required on the part of the beekeeper to bring his colonies to a peak of colony activity at just the right time. If they get too strong ahead of the main flow they may be going down when they should be at their best. A July honeyflow requires quite different planning than where September brings the first important flow of the year.

—ABJ—

A request for suggestions as to the best location for beekeeping in the Northwest must of necessity be referred to someone better informed regarding that region. My visits have been too short to form a proper estimate. H. A. Scullen, of College of Agriculture, Corvallis, Oregon, has long served the beekeepers in both Washington and Oregon and should be able to give information regarding locations in either of these states. O. A. Sipple knows Montana inside out. His address is Big Timber.

—ABJ—

Winter came early this year. O. G. Borton, of Scotland, South Dakota, wrote of below zero temperatures

on November 9, with the ground covered with snow. At other northwestern points the weather bureau was reporting the coldest weather of record for so early in the year.

—ABJ—

Saskatchewan reports the biggest honey crop of its history in 1936, with some colonies producing above 500 pounds of honey. When one hive of bees will produce that much honey it justifies a considerable investment in supers and other equipment. When such flows come the fellow who is short of equipment pays dearly for his lack.

—ABJ—

J. J. Wilder writes again regarding the button willow or button bush so much discussed in this department of late. He indicates that he will make further investigation since the weight of opinion is against him. He quotes three extensive honey producers of the Apalachicola River region of Florida to the effect that it does not yield in that area.

My own experience leads me to say that it is never safe to judge a plant on observation in one locality alone. Several plants well known as sources of nectar have failed to attract the bees in the vicinity of my Iowa farm.

—ABJ—

Through the kindness of Mr. Hankammer, of St. Louis, we have a small amount of seed of the button bush and if those who asked for seed will send postage we will be glad to send it on.

—ABJ—

An Oregon reader wants to know where to find seed of *Lespedeza bicolor*. Since this plant is but little known in this country it is doubtful whether a commercial supply of seed is as yet available. Several new varieties of *Lespedeza* have been under test at the state experiment stations and by the United States Department of Agriculture. An inquiry directed to the Bureau of Plant Industry at Washington might secure a sample for trial.

—ABJ—

The article on "*Lespedeza* as a Honey Plant" by Frank VanHalter in the November *American Bee Journal* offers some encouragement to beekeepers. However, it should be remembered that most of the reports concerning the various kinds of *Lespedeza* are unfavorable and it is probable that in most places they are likely to prove disappointing to the one who depends upon them for honey. If the new one (*bicolor*) proves to be an exception we will be fortunate.

—ABJ—

Beekeepers in many localities find themselves handicapped by the fact that the honeyflows are brief and followed by long periods of dearth. In such localities some new plant which would give the bees good pasture during the uncertain period would be extremely valuable. Something which could be naturalized and continue to thrive without cultivation is the kind sought. I am asked for suggestions as to what can be made to serve such a purpose in the fireweed areas of western Oregon where there is a long period with nothing for the bees after the fireweed blooms. If any reader knows anything worth trying we will be glad of the information.

—ABJ—

Drought has taken a terrible toll again this year. Only time will tell the final result. Many trees and shrubs as well as perennial plants have died and others have received injuries from which they are not likely to recover. In spite of it all the bees have gathered a fair crop of honey. Sweet clover has saved the day for the mid-western beekeeper and without it in this region there would be but little honey this year.

—ABJ—

Letters intended for me should be addressed to Hamilton, Illinois, until next April when I return to the Experimental Apiary at Atlantic, Iowa. And now with all good wishes for a happy holiday season—

FRANK C. PELLETT.

